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# New benzamides as PPARy modulators

The present invention relates to new benzamides acting as PPAR $\gamma$  and PPAR $\gamma$  /PPAR $\delta$  modulators, as well as to processes and intermediates useful for their preparation, and to pharmaceutical compositions containing them.

#### BACKGROUND ART

Peroxisome proliferator activated receptors (PPARs) belong to the superfamily of transcription factors known as nuclear receptors. This family includes steroid, retinoid and thyroid hormone receptors. Three sub-types of PPARs have been identified in humans, rodents and Xenopus. They are PPAR $\alpha$ , PPAR $\beta/\delta$  and PPAR $\gamma$ , each encoded by a different gene and showing different tissue distribution.

The gene encoding for PPARy is transcribed in humans in three different mRNA isoforms (PPARy1, PPARy2 and PPARy3) through different splicing and promoter usage (Fajas et al., J. Biol. Chem. 1997, 272, 18779-18789). The PPARy1 isoform shows a wide tissular distribution, while PPARy2 and PPARy3 are confined to certain tissues: PPARy2 is expressed only in adipose tissue and PPARy3 in adipose tissue as well as in macrophages (Fajas et al., FEBS Lett. 1998, 438, 55-60).

Differences detected in tissue distribution as well as in the activation profile of the PPARy isoforms suggest they are involved in a variety of physiological functions playing a central role in homeostasis and lipid metabolism (Vamecq et al., Lancet 1999, 354, 141-148). These functions include, for

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example, lipidic transport in plasma and catabolism of fatty acids, regulation of insulin sensitivity and blood glucose levels. differentiation of macrophages that atherosclerotic plaques, inflammatory carcinogenesis, hyperplasia, and adipocyte differentiation, the latter being the most verified function of the PPARy (Grimaldi, Prog. Lipid Res. 2001, 40, 269-281, Schiller et al., J. Biol. Chem. 2001, 276, 14133-14137). Thus, discovery of these transcription factors has provided new pharmacological targets for the development of therapeutic agents for the prevention and treatment metabolic diseases such as diabetes, obesity and dyslipidaemia.

Non-insulin dependent diabetes mellitus (NIDDM) or type 2 diabetes is characterized by an insulin resistance in peripheral tissues, including muscle, liver, and adipose tissue. Glitazones, selective PPARy agonist compounds, are drugs that reduce insulin resistance and lower blood glucose levels. Currently two products belonging to this family, rosiglitazone and pioglitazone, have been approved for the treatment of type 2 diabetes in humans.

A great effort has been made in recent years to design new drugs that improve the side effect profile of the first glitazones, show a greater affinity as a PPARY ligands, and increase their potency in type 2 diabetes. This rational design has yielded structurally diverse compounds that show great potency and selectivity. Among them is interesting to highlight the 2-alkoxyphenylpropionic type derivatives ragaglitazar (1, EP 1049684) and tesaglitazar (2, EP

1084103). These compounds are currently in phase III and II of clinical development, respectively.

The use of compounds totally or partially blocking PPARy activity is useful for the inhibition of adipocyte differentiation, which constitutes an effective treatment for obesity.

PPAR $\delta$  activation has been shown to lead to increased levels of HDL cholesterol in db/db mice (Leibowitz et al, FEBS Lett. 2000, 473, 333-336), and in diabetic-obese rhesus monkeys, while lowering the levels of LDL, triglycerides, and insulin (Oliver et al, Proc Nat Acad Sci USA, 2001, 98, 5306-5311). The involvement of PPAR $\delta$  in fatty acid oxidation in muscles was further substained in PPAR $\alpha$  knock-out mice (Muoio et al., J. Biol. Chem. 2002, 277, 26089-26097). A number of PPAR $\delta$  compounds have been reported to be useful in the treatment of hyperglycemia, hyperlipidemia hypercholesterolemia (e.g. WO 02/59098, WO 01/603, 01/25181, WO 02/14291, WO 01/79197, WO 99/4815, WO 97/28149, WO 98/27974, WO 97/28115, WO 97/27857, WO 97/28137, WO 97/27847). Taken together, these observations suggest that  $\mbox{\sc PPAR}\delta$  activation is useful in the treatment and prevention cardiovascular diseases and conditions including atherosclerosis, hypertriglyceremia and mixed dyslipidemia

(WO 01/00603) In vitro studies investigating the pharmacological modulation of PPARS suggest that this kind of ligands may prove to be efficacious drugs for decreasing cardiovascular disease associated with metabolic syndrome, a condition comprised of a cluster of risk factors that also includes insulin resistance, obesity and hypertension (Mukjerheer, Drug News Perspect. 2002, 15, 261-267).

Pro-differentiation and lipid accumulation effects have been reported in rodent and cultured human keratinocytes, as well as protection against cell death upon PPARô activation (Tan et al., Genes Dev. 2001, 15, 3263-3277; Schmuth et al., J. Invest. Dermatol. 2004, 122, 971-983). Modulators of these activities could be useful for treating a variety of skin disorders.

In addition, PPARδ has been implicated as a direct target in colorectal carcinogenesis in mice. All the evidences suggest that PPARδ expression may promote tumour growth and, thus, may be also a potential target for the treatment of colorectal cancer (e.g. Park et al., Proc Nat Acad Sci USA, 2001, 98, 2598-2603). While PPARγ is acknowledged as a master regulator of adipogenesis, PPARδ may also play a role in adipocyte differentiation, as demonstrated by in vitro and in PPARδ-deficient animals, promoting PPARγ gene expression, which upon specific ligand activation promotes adipogenesis. Thus a non-selective PPARγ/δ antagonist would be also a potential drug for obesity (Shearer et al., Curr. Med. Chem. 2003, 10, 267-280).

This indicate that research for compounds displaying various degrees of PPARy and PPAR $\delta$  modulation should lead to the

discovery of drugs that have great potential in the treatment of diseases such as type-2 diabetes, dyslipidemia, syndrome X, cardiovascular diseases (including atherosclerosis), hypercholesteremia, colon cancer, skin disorders (including psoriasis, and wound healing, Tan et al., Expert Opin. Ther. Targets, 2004, 8, 39), and bone diseases (Pei et al., J. Clin. Invest., 2004, 113, 805-806).

Consequently, it is of great interest to provide new therapeutic agents that selectively modulate PPARy, and PPARy / PPAR $\delta$ .

Kundu and collaborators have described benzamides (3), (4) and (5) as N-D-glucosidase inhibitors (Comb. Chem. High. 2002, 5, 545-550). These compounds are structurally close to those of this invention, but were described for different uses.

#### SUMMARY OF THE INVENTION

One aspect of the present invention relates to the provision of new compounds of formula (I),

$$Z_{O}$$

(1)

its stereoisomers and mixtures thereof, its polymorphs and mixtures thereof, and the pharmaceutically acceptable solvates and addition salts of all of them, wherein the central benzene ring may be substituted in meta- or paraposition and,

- -A is a radical selected from the group consisting of -OR1, -NR2OR1 and -NR2R3; wherein R1, R2 and R3 independently represent -H or  $-(C_1-C_4)$ -alkyl;
- -W- is a biradical selected from the group: -NH-CH(E)-, N(E)-CH<sub>2</sub>-, and -N(D)-CH<sub>2</sub>-CH<sub>2</sub>-; wherein E is a radical of the -G-I-J-K type and D is a radical of the -G-I'-J-K type where:
  - -G is a bond or a  $(CH_2)_{1-4}$  biradical;
  - -I is a biradical of a cycle selected from the following groups:
    - a) cyclopropane, cyclobutane, cyclopentane, cyclohexane and cyclohexene, all optionally substituted by one orseveral radicals independently selected from -OH, oxo (=0), -CHO, -SH,  $-NO_2$ , -CN, -F, -Cl, -Br,  $(C_1-C_4)$  alkanoyl,  $(C_1-C_4)$  -alkoxycarbonyl,  $(C_1-C_4)$ alkanoyloxy, (C<sub>1</sub>-C<sub>4</sub>)-alkylsulphinyl,  $(C_1 - C_4)$ alkylsulphenyl,  $(C_1-C_4)$ -alkylsulphonyl,  $(C_1-C_4)$ alkyloxy- $SO_2$ -,  $(C_1-C_4)$ -alkyl- $SO_2O$ -, -NR2R3, -

- CONR2R3,  $(C_1-C_4)$ -alkyl optionally substituted by one or several -OH or -F, and  $(C_1-C_4)$ -alkoxyl optionally substituted by one or several -OH or -F;
- b) a five- or six-membered aromatic heterocycle containing from one to three heteroatoms selected from O, S and N, this heterocycle being optionally substituted by one or several radicals independently selected from -OH, oxo (=0), -CHO, -SH, -NO<sub>2</sub>, -CN, -F, -Cl, -Br, ( $C_1$ - $C_4$ )-alkanoyl,  $(C_1-C_4)$ -alkoxycarbonyl,  $(C_1-C_4)$  alkanoyloxy,  $(C_1-C_4)$ -alkylsulphinyl,  $(C_1-C_4)$  alkylsulphenyl,  $(C_1-C_4)$ -alkylsulphonyl,  $(C_1-C_4)$ alkyloxy- $SO_2$ -,  $(C_1-C_4)$ -alkyl- $SO_2O$ -, -NR2R3, -CONR2R3,  $(C_1-C_4)$ -alkyl optionally substituted by one or several -OH or -F, and  $(C_1-C_4)$ alkoxyl optionally substituted by one several -OH or -F;
- c) benzene or benzene substituted by several radicals independently selected from -OH, -CHO, -SH, -NO<sub>2</sub>, -CN, -F, -Cl, -Br,  $(C_1-C_4)$ alkanoyl,  $(C_1-C_4)$  -alkoxycarbonyl,  $(C_1 - C_4)$ alkanoyloxy,  $(C_1-C_4)$  -alkylsulphinyl,  $(C_1 - C_4)$ alkylsulphenyl,  $(C_1-C_4)$ -alkylsulphonyl,  $(C_1-C_4)$ alkyloxy- $SO_2$ -,  $(C_1-C_4)$ -alkyl- $SO_2O$ -, -NR2R3, -CONR2R3,  $(C_1-C_4)$ -alkyl optionally substituted by one or several -OH or -F, and  $(C_1-C_4)$ alkoxyl optionally substituted by one several -OH or -F; and
- d) a bicyclic system consisting of a benzene fused with a five- or six-membered ring optionally containing from one to three heteroatoms selected from O, S and N, this bicyclic system

being optionally substituted by one or several radicals independently selected from -OH, oxo (=0), -CHO, -SH, -NO2, -CN, -F, -Cl, -Br, (C1-C4)-alkanoyl, (C1-C4)-alkoxycarbonyl, (C1-C4)-alkanoyloxy, (C1-C4)-alkylsulphinyl, (C1-C4)-alkylsulphenyl, (C1-C4)-alkylsulphonyl, (C1-C4)-alkylsulphonyl, (C1-C4)-alkyloxy-SO2-, (C1-C4)-alkyl-SO2O-, -NR2R3, -CONR2R3, (C1-C4)-alkyl optionally substituted by one or several -OH or -F, and (C1-C4)-alkoxyl optionally substituted by one or several -OH or -F;

- -J- is a bond or a biradical selected from the following groups:
  - a)  $(CH_2)_{1-4}$ -alkylidene;
  - b) -0-, -s-, -s0-, -s0<sub>2</sub>-, -c0-, -0c0-, -c00-,  $\frac{1}{2}$  OCONR2-, -NR2C00-, -CONR2-, -NR2C0-, -NR2-,  $\frac{1}{2}$  NR2S0<sub>2</sub>-, -S0<sub>2</sub>NR2-; and
  - $\begin{array}{c} \text{C}) \text{O} \left( \text{C}_1 \text{C}_4 \right) \text{,} & \left( \text{C}_1 \text{C}_4 \right) \text{,} & \left( \text{C}_1 \text{C}_4 \right) \text{,} & \left( \text{C}_1 \text{C}_4 \right) \text{s} \\ & , & \text{SO} \left( \text{C}_1 \text{C}_4 \right) \text{,} & \left( \text{C}_1 \text{C}_4 \right) \text{SO} \text{,} & \text{SO}_2 \left( \text{C}_1 \text{C}_4 \right) \text{,} & \\ & \left( \text{C}_1 \text{C}_4 \right) \text{SO}_2 \text{,} & \text{OCO} \left( \text{C}_1 \text{C}_4 \right) \text{,} & \left( \text{C}_1 \text{C}_4 \right) \text{,} \\ & \text{NR2COO} \left( \text{C}_1 \text{C}_4 \right) \text{,} & \left( \text{C}_1 \text{C}_4 \right) \text{,} & \left( \text{C}_1 \text{C}_4 \right) \text{,} & \left( \text{C}_1 \text{C}_4 \right) \text{,} \\ & \text{C}_4 \right) \text{CONR2} \text{,} & \left( \text{C}_1 \text{C}_4 \right) \text{NR2CO} \text{,} & \text{NR2CO}_2 \left( \text{C}_1 \text{C}_4 \right) \text{,} & \left( \text{C}_1 \text{C}_4 \right) \text{,} \\ & \text{C}_4 \right) \text{NR2} \text{,} & \text{SO}_2 \text{NR2} \left( \text{C}_1 \text{C}_4 \right) \text{NR2SO}_2 \left( \text{C}_1 \text{C}_4 \right) \text{,} \\ & \text{NR2SO}_2 \text{;} \\ \end{array}$
- -K is a radical selected from the following groups:
  - a)-H;
  - b)  $(C_1-C_4)$  -alkyl;
  - c)a radical from a cycle selected from the following: cyclopropane, cyclobutane, cyclopentane, cyclohexane and cyclohexene, all

of them optionally substituted by one or several radicals independently selected from -OH, OXO (=O), -CHO, -SH,  $-NO_2$ , -CN, -F, -Cl, -Br,  $(C_1-C_4)$ -alkanoyl,  $(C_1-C_4)$ -alkoxycarbonyl,  $(C_1-C_4)$ -alkanoyloxy,  $(C_1-C_4)$ -alkylsulphinyl,  $(C_1-C_4)$ -alkylsulphenyl,  $(C_1-C_4)$ -alkylsulphenyl,  $(C_1-C_4)$ -alkyloxy- $SO_2$ -,  $(C_1-C_4)$ -alkyl- $SO_2O$ -, -NR2R3, -CONR2R3,  $(C_1-C_4)$ -alkyl optionally substituted by one or several -OH or -F, and  $(C_1-C_4)$ -alkoxyl optionally substituted by one or several -OH or -F, are or several -OH or -F;

- d) a radical from a fivesix-membered heterocycle containing from one to three heteroatoms selected from O, S and N, being this heterocycle optionally substituted by one or several radicals independently selected from -OH,  $\infty$  (=0), -CHO, -SH, -NO<sub>2</sub>, -CN, -F, -Cl, -Br,  $(C_1-C_4)$  -alkanoyl,  $(C_1-C_4)$  -alkoxycarbonyl,  $(C_1-C_4)$  -alkanoyloxy,  $(C_1-C_4)$  -alkylsulphinyl,  $(C_1-C_4)$  -alkylsulphenyl,  $(C_1-C_4)$  -alkylsulphonyl,  $(C_1-C_4)$  -alkyloxy-SO<sub>2</sub>-,  $(C_1-C_4)$  -alkyl-SO<sub>2</sub>O-, -NR2R3, -CONR2R3,  $(C_1-C_4)$ -alkyl optionally substituted by one or several -OH or -F, and  $(C_1-C_4)$ -alkoxyl optionally substituted by one or several -OH or -F; and
- e) phenyl or phenyl optionally substituted by one or several radicals independently selected from -OH, -CHO, -SH,  $-NO_2$ , -CN, -F, -Cl, -Br,  $(C_1-C_4)$  -alkanoyl,  $(C_1-C_4)$  -alkoxycarbonyl,  $(C_1-C_4)$  -alkanoyloxy,  $(C_1-C_4)$ -alkylsulphinyl,  $(C_1-C_4)$  -alkylsulphenyl,  $(C_1-C_4)$ -alkylsulphonyl,  $(C_1-C_4)$  -alkyloxy- $SO_2$ -,  $(C_1-C_4)$  -alkyl-SO<sub>2</sub>O-, -NR2R3, -CONR2R3,  $(C_1-C_4)$  -alkyl optionally

- substituted by one or several -OH or -F, and  $(C_1-C_4)$ -alkoxyl optionally substituted by one or several -OH or -F;
- -I'- is a biradical of a cycle selected from the following groups:
  - cyclobutane, cyclopentane, a) cyclopropane, cyclohexane and cyclohexene, all optionally several radicals one or substituted by independently selected from -OH, oxo (=0), -SH,  $-NO_2$ , -CN, -F, -CHO,  $(C_1-C_4)$  -alkoxycarbonyl,  $(C_1-C_4)$  -alkanoyl,  $(C_1-C_4)$  -alkylsulphinyl,  $(C_1 + C_4)$  -alkanoyloxy,  $(C_1-C_4)$  -alkylsulphonyl,  $(C_1-C_4)$  -alkylsulphenyl,  $(C_1-C_4)$  -alkyloxy-SO<sub>2</sub>-,  $(C_1-C_4)$  -alkyl-SO<sub>2</sub>O-, -CONR2R3,  $(C_1-C_4)$ -alkyl optionally -NR2R3, substituted by one or several -OH or -F, and  $(C_1-C_4)$ -alkoxyl optionally substituted by one or several -OH or -F;
  - b) a five- or six-membered aromatic heterocycle heteroatoms from one to three containing s and N, being this ٥, selected from heterocycle optionally substituted by one or several radicals independently selected from -OH, oxo (=0), -CHO, -SH, -NO<sub>2</sub>, -CN, -F, -Cl,  $(C_1-C_4)$ -alkanoyl,  $(C_1-C_4)$ -alkoxycarbonyl,  $(C_1-C_4)$  -alkylsulphinyl,  $(C_1-C_4)$  -alkanoyloxy,  $(C_1-C_4)$  -alkylsulphenyl,  $(C_1-C_4)$  -alkylsulphonyl,  $(C_1-C_4)$  -alkyl-SO<sub>2</sub>O-,  $(C_1-C_4)$  -alkyloxy-SO<sub>2</sub>-, -CONR2R3,  $(C_1-C_4)$ -alkyl optionally -NR2R3, substituted by one or several -OH or -F, and  $(C_1-C_4)$  -alkoxyl optionally substituted by one or several -OH or -F;

- c) benzene substituted by one or several radicals independently selected from -OH, -CHO, -SH,  $-NO_2$ , -CN, -F, -Cl,  $(C_1-C_4)$ -alkanoyl, -Br,  $(C_1-C_4)$  -alkoxycarbonyl,  $(C_1-C_4)$  -alkanoyloxy,  $(C_1-C_4)$  -alkylsulphinyl,  $(C_1-C_4)$  -alkylsulphenyl,  $(C_1-C_4)$  -alkylsulphonyl,  $(C_1-C_4)$ -alkyloxy- $SO_2$ -,  $(C_1-C_4)$  -alkyl-SO<sub>2</sub>O-, -NR2R3, -CONR2R3,  $(C_1-C_4)$ -alkyl optionally substituted by one or several -OH -F, and  $(C_1-C_4)$  -alkoxyl optionally substituted by one or several -OH or -F; and
- d) a bicyclic system consisting of a benzene fused with a five- or six-membered ring optionally containing from one three heteroatoms to selected from O, S and N, being this bicyclic system optionally substituted by one or several radicals independently selected from -OH, oxo (=0), -CHO, -SH,  $-NO_2$ , -CN, -F, -C1, -Br,  $(C_1-C_4)$ -alkanoyl,  $(C_1-C_4)$  -alkoxycarbonyl,  $(C_1-C_4)$  -alkanoyloxy,  $(C_1-C_4)$  -alkylsulphinyl,  $(C_1-C_4)$  -alkylsulphenyl,  $(C_1-C_4)$  -alkylsulphonyl,  $(C_1-C_4)$  -alkyloxy-SO<sub>2</sub>-,  $(C_1-C_4)$  -alkyl-SO<sub>2</sub>O-, -NR2R3, -CONR2R3,  $(C_1-C_4)$ -alkyl optionally substituted by one or several -OH or -F, and  $(C_1-C_4)$ -alkoxyl optionally substituted by one or several -OH or -F:
- -Z is a radical selected from the following groups:
  - a) -Q-I-J-T wherein
    - -Q- is a biradical  $-(CH_2)_{1-3}$ ;
    - -I- is as defined above;
    - -J- is as defined above; and

- -T is a radical selected from the following groups:
- a.a) -H;
- $a.b) (C_1-C_4) alkyl;$
- a.c)a radical from a cycle selected from the following: cyclopropane, cyclobutane, cyclopentane, cyclohexane and cyclohexene, all of them optionally substituted by one or several radicals independently selected from -OH, OXO (=0), -CHO, -SH,  $-NO_2$ , -CN, -Cl, -F, -Br,  $(C_1-C_4)$  -alkanoyl,  $(C_1-C_4)$ -alkoxycarbonyl,  $(C_1-C_4)$ -alkanoyloxy,  $(C_1-C_4)$  -alkylsulphinyl,  $(C_1-C_4)$  -alkylsulphenyl,  $(C_1-C_4)$  -alkylsulphonyl,  $(C_1-C_4)$  -alkyloxy-SO<sub>2</sub>-,  $(C_1-C_4)$  -alkyl-SO<sub>2</sub>O-, -NR2R3, -CONR2R3, (C<sub>1</sub>-C<sub>4</sub>)-alkyl optionally substituted by one or several -OH or -F, and  $(C_1-C_4)$ -alkoxyl optionally substituted by one or several -OH or -F:
- a.d) a radical from a five- or six-membered heterocycle containing from one to three heteroatoms selected from O, S and N, this heterocycle being optionally substituted by one several radicals independently selected from -OH, oxo (=O), -CHO, -SH,  $-NO_2$ , -CN, -F, -Cl, -Br,  $(C_1-C_4)$  -alkanoyl,  $(C_1-C_4)$ -alkoxycarbonyl,  $(C_1-C_4)$ -alkanoyloxy,  $(C_1-C_4)$  -alkylsulphinyl,  $(C_1-C_4)$  -alkylsulphenyl,  $(C_1-C_4)$  -alkylsulphonyl,  $(C_1-C_4)$  -alkyloxy-SO<sub>2</sub>-,  $(C_1-C_4)$ -alkyl-SO<sub>2</sub>O-,

-NR2R3, -CONR2R3,  $(C_1-C_4)$ -alkyl optionally

substituted by one or several -OH or -F, and  $(C_1-C_4)$ -alkoxyl optionally substituted by one or several -OH or -F:

- a.e) phenyl or phenyl optionally substituted by one orseveral radicals independently selected from -OH, -CHO, -SH, -NO2, -CN, -F, -Cl, -Br,  $(C_1-C_4)$ -alkanoyl,  $(C_1-C_4)$  -alkoxycarbonyl,  $(C_1-C_4)$  -alkanoyloxy,  $(C_1-C_4)$  -alkylsulphinyl,  $(C_1-C_4)$  -alkylsulphenyl,  $(C_1-C_4)$  -alkylsulphonyl,  $(C_1-C_4)$  -alkyloxy-SO<sub>2</sub>-,  $(C_1-C_4)$  -alkyl-SO<sub>2</sub>O-, -NR2R3, -CONR2R3,  $(C_1-C_4)$ -alkyl optionally substituted by one or several -OH or -F, and  $(C_1-C_4)$ -alkoxyl optionally substituted
- by one or several -OH or -F; and a.f) radical from a bicyclic consisting of a benzene fused with a fiveor six-membered ring optionally containing from one to three heteroatoms selected from O, S and N, being this bicyclic system optionally substituted by one or several radicals independently selected from -OH, oxo (=0), -CHO, -SH, -NO<sub>2</sub>, -CN, -F, -Cl, -Br,  $(C_1-C_4)$  -alkanoyl,  $(C_1-C_4)$  -alkoxycarbonyl,  $(C_1-C_4)$  -alkanoyloxy,
  - $(C_1-C_4)$  -alkylsulphinyl,
  - $(C_1-C_4)$  -alkylsulphenyl,
  - $(C_1-C_4)$  -alkylsulphonyl,
  - $(C_1-C_4)$ -alkyloxy-SO<sub>2</sub>-,  $(C_1-C_4)$ -alkyl-SO<sub>2</sub>O-, -NR2R3, -CONR2R3,  $(C_1-C_4)$ -alkyl optionally substituted by one or several -OH or -F,

and (C<sub>1</sub>-C<sub>4</sub>)-alkoxyl optionally substituted by one or several -OH or -F;

- b)  $-(CH_2)_s-X-P-I-J-T$  wherein
- is 2 or 3:
- -X- is selected from the group consisting of -O-, -S-, -SO-, -SO<sub>2</sub>- and -NR4-, being R4 a radical selected from the group:
- b.a) -H;
- b.b)  $(C_1-C_{10})$  -alkyl;
- b.c) cycloalkyl, cycloalkyl-CO-, cycloalkyl-(C1-C3)-alkyl and cycloalkyl- $(C_1-C_3)$ -alkanoyl, wherein the cycloalkyl is a five- or six-membered ring optionally substituted by one or several radicals selected from -OH, oxo (=O), -CHO, -SH, -NO<sub>2</sub>, -CN, -F, -Cl, -Br,  $(C_1-C_4)$ -alkanoyl,  $(C_1-C_4)$ -alkoxycarbonyl,  $(C_1-C_4)$  -alkanoyloxy,  $(C_1-C_4)$  -alkylsulphinyl,

  - $(C_1-C_4)$  -alkylsulphenyl,
  - $(C_1-C_4)$  -alkylsulphonyl,
  - $(C_1-C_4)$ -alkyloxy- $SO_2$ -,  $(C_1-C_4)$ -alkyl- $SO_2O$ -, -NR2R3, -CONR2R3.  $(C_1-C_4)$  -alkyl optionally substituted by one or several -OH or-F, and  $-(C_1-C_4)$  -alkoxyl optionally substituted by one or several OH or F;
- phenyl, phenyl-CO-, phenyl- $(C_1-C_3)$ -alkyl b.d) and phenyl- $(C_1-C_3)$ -alkanoyl, being this aromatic ring optionally substituted by one or several radicals selected from -OH, -CHO, -SH, -NO2, -CN, -F, -Cl, -Br,  $(C_1-C_4)$ -alkanoyl,  $(C_1-C_4)$ -alkoxycarbonyl,

 $(C_1-C_4)$ -alkanoyloxy,  $(C_1-C_4)$ -alkylsulphinyl,  $(C_1-C_4)$ -alkylsulphenyl,  $(C_1-C_4)$ -alkylsulphonyl,  $(C_1-C_4)$ -alkyloxy- $SO_2$ -,  $(C_1-C_4)$ -alkyl- $SO_2O$ -, -NR2R3, -CONR2R3,  $(C_1-C_4)$ -alkyl optionally substituted by one or several -OH or -F, and  $(C_1-C_4)$ -alkoxyl optionally substituted by one or several substituted by one or several -OH or -F; and

b.e) heterocycle, heterocycle-CO, heterocycle-(C1-C3)-alkyl and heterocycle-(C<sub>1</sub>-C<sub>3</sub>)-alkanoyl, wherein the heterocycle is a five- or six-membered ring containing from one to heteroatoms selected from O, S and N, being this heterocycle optionally substituted by one or several radicals selected from -OH, oxo (=O), -CHO, -SH,  $-NO_2$ , -CN, -F, -Cl, -Br,  $(C_1-C_4)$  -alkanoyl,  $(C_1-C_4)$  -alkoxycarbonyl,  $(C_1-C_4)$  -alkanoyloxy,  $(C_1-C_4)$  -alkylsulphinyl,

 $(C_1-C_4)$  -alkylsulphenyl,

 $(C_1-C_4)$  -alkylsulphonyl,

 $(C_1-C_4)$ -alkyloxy-SO<sub>2</sub>-,  $(C_1-C_4)$ -alkyl-SO<sub>2</sub>O-, -NR2R3, -CONR2R3,  $(C_1-C_4)$ -alkyl

optionally substituted by one or several -OH or -F, and  $(C_1-C_4)$ -alkoxyl optionally substituted by one or several -OH or -F:

- -P- is a bond or a  $-(CH_2)_{1-4}$  biradical;
- -I- is as defined above;
- -J- is as defined above; and

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-T is a radical as defined above;
c) -(CH_2)_u-CO-NR5-P-I-J-T wherein
   u is 1 or 2;
   -R5 is a radical selected from the group:
      c.a)
           ~H;
      c.b) (C_1-C_{10})-alkyl;
      c.c)
            cycloalkyl and cycloalkyl-(C_1-C_3)-alkyl,
             wherein the cycloalkyl is a five- or
             six-membered ring optionally substituted
            by one or several radicals selected from
             -OH, oxo (=0), -CHO, -SH, -NO<sub>2</sub>, -CN, -F,
             -Cl,
                                        (C_1-C_4) -alkanoyl,
                          -Br.
             (C_1-C_4) -alkoxycarbonyl,
             (C_1-C_4) -alkanoyloxy,
             (C_1-C_4) -alkylsulphinyl,
             (C_1-C_4) -alkylsulphenyl,
             (C_1-C_4) -alkylsulphonyl,
             (C_1-C_4)-alkyloxy-SO_2-, (C_1-C_4)-alkyl-SO_2O-,
            -NR2R3,
                           -CONR2R3,
                                            (C_1-C_4)-alkyl
            optionally substituted by one or several
            -OH or -F, and (C_1-C_4)-alkoxyl optionally
            substituted by one or several -OH or -F;
     c.d)
            phenyl and phenyl-(C1-C3)-alkyl, being
            this aromatic ring optionally substituted
            by one or several radicals selected from
            -OH, -CHO, -SH, -NO<sub>2</sub>, -CN, -F, -Cl, -Br,
            (C_1-C_4)-alkanoyl, (C_1-C_4)-alkoxycarbonyl,
            (C_1-C_4) -alkanoyloxy,
            (C_1-C_4) -alkylsulphinyl,
            (C_1-C_4) -alkylsulphenyl,
            (C_1-C_4) -alkylsulphonyl,
            (C_1-C_4)-alkyloxy-SO_2-, (C_1-C_4)-alkyl-SO_2O-,
```

-CONR2R3,

 $(C_1-C_4)$ -alkyl

-NR2R3,

optionally substituted by one or several -OH or -F, and  $(C_1-C_4)$  -alkoxyl optionally substituted by one or several -OH or -F; and

heterocycle c.e) and heterocycle- $(C_1-C_3)$ -alkyl, wherein the heterocycle is a five- or six-membered ring containing from one to three heteroatoms selected from O, S and N, this heterocyclo optionally being substituted by one or several radicals selected from -OH, oxo (=O), -CHO, -SH,  $-NO_2$ , -CN, -F, -Cl, -Br,  $(C_1-C_4)$  -alkanoyl,  $(C_1-C_4)$  -alkoxycarbonyl,  $(C_1-C_4)$  -alkanoyloxy,  $(C_1-C_4)$  -alkylsulphinyl,  $(C_1-C_4)$  -alkylsulphenyl,  $(C_1-C_4)$  -alkylsulphonyl,  $(C_1-C_4)$ -alkyloxy-SO<sub>2</sub>-,  $(C_1-C_4)$ -alkyl-SO<sub>2</sub>O-, -CONR2R3, -NR2R3,  $(C_1-C_4)$  -alkyl optionally substituted by one orseveralseveral -OH -F. and or $(C_1-C_4)$ -alkoxyl optionally substituted by one or several -OH or -F;

- -P- is as defined above;
- -I- is as defined above;
- -J- is as defined above; and
- -T is as defined above;
- d) -(CH<sub>2</sub>)<sub>s</sub>-NR6R7, wherein s is as defined above, and R6 and R7 together with the N are joined forming a five- or six-membered cycle optionally containing from one to three additional heteroatoms selected from O, S and

N, and that may be fused or substituted by one or two five- or six-membered cycles optionally containing one or several heteroatoms selected from the group composed of O, S and N, all the cycles being optionally substituted by one or several radicals independently selected from -OH, OXO (=0), -CHO, -SH,  $-NO_2$ , -CN, -F, -C1, -Br,  $(C_1-C_4)$ -alkanoyl,  $(C_1-C_4)$ -alkoxycarbonyl,  $(C_1-C_4)$  -alkylsulphinyl,  $(C_1-C_4)$  -alkanoyloxy,  $(C_1-C_4)$  -alkylsulphenyl,  $(C_1-C_4)$  -alkylsulphonyl,  $(C_1-C_4)$  -alkyl-SO<sub>2</sub>O-,  $(C_1-C_4)$  -alkyloxy-SO<sub>2</sub>-, -CONR2R3,  $(C_1-C_4)$  -alkyl optionally -NR2R3, substituted by one or several -OH or -F, and  $(C_1-C_4)$ -alkoxyl optionally substituted by one or several -OH or -F; and

e)  $-(CH_2)_u$ -CO-NR6R7 wherein u is as defined above, and R6 and R7 are as defined above;

with the proviso that compound of formula (I) is neither

2-(4-benzyloxybenzoylamino)-3-phenylpropionic acid, nor

2-[4-(4-methoxybenzyloxy)benzoylamino]-3-phenylpropionic

acid, nor

2-[4-(4-bromobenzyloxy)benzoylamino]-3-phenylpropionic acid.

In a particular embodiment of this aspect of the invention, in the compounds of formula (I), -W- is -NH-CH(E)-. In another particular embodiment -W- is -NH-CH(E)-, and -Z is a radical of the -Q-I-J-T type. In another particular embodiment -W- is -NH-CH(E)-, and -Z is a radical of the -(CH<sub>2</sub>)<sub>s</sub>-X-P-I-J-T type. In another particular embodiment -W- is -NH-CH(E)-, and -Z is a radical of the -(CH<sub>2</sub>)<sub>s</sub>-O-P-I-J-T type. In another particular embodiment -W- is -NH-CH(E)-, and -Z is a radical of the -(CH<sub>2</sub>)<sub>s</sub>-O-P-I-J-T type. In another

particular embodiment -Wis  $-N(E)-CH_2-CH_2-$ . In another particular embodiment -W- is -N(E)-CH $_2$ -CH $_2$ -, and -Z is a radical of the -Q-I-J-T type. In another particular embodiment -W- is -N(E)-CH $_2$ -CH $_2$ -, and -Z is a radical of the  $-(CH_2)_s-X-P-I-J-T$  type. In another particular embodiment -Wis  $-N(E)-CH_2-CH_2$ and -Z is radical of the  $-(CH_2)_s$ -O-P-I-J-T type. In another particular embodiment -W- $-N(E)-CH_2-CH_2$ and -Z is a radical of the -(CH $_2$ ) $_2$ -NR4-P-I-J-T type. In another particular embodiment -A is a radical of the -OR1 type.

Preferred compounds of the present invention include:

- (2S)-3-(4-benzyloxyphenyl)-2-[4-(4-butoxybenzyloxy)benzoylami no]propionic acid methyl ester;
- (2S)-3-(4-benzyloxyphenyl)-2-[4-(3-bromobenzyloxy)benzoylamin o]propionic acid methyl ester;
- (2S)-3-(4-benzyloxyphenyl)-2-[4-(2-chlorobenzyloxy)benzoylami no]propionic acid methyl ester;
- (2S)-3-(4-benzyloxyphenyl)-2-[4-(2-fluorobenzyloxy)benzoylami no]propionic acid methyl ester;
- (2S) -3-(4-benzyloxyphenyl)-2-[4-(3-methylbenzyloxy)benzoylami no]propionic acid methyl ester;
- (2S)-3-(4-benzyloxyphenyl)-2-[4-(3-
- trifluoromethylbenzyloxy)benzoylamino]propionic acid methyl
  ester;
- (2S) -3-(4-benzyloxyphenyl) -2-[4-(2-
- methoxybenzyloxy)benzoylamino]propionic acid methyl ester;
- (2S)-3-(4-benzyloxyphenyl)-2-[4-(2-methylbenzyloxy)benzoylamino]propionic acid methyl ester;
- (2S)-3-(4-benzyloxyphenyl)-2-[4-(2-
- trifluoromethylbenzyloxy)benzoylamino]propionic acid methyl
  ester;

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(2S) -3-(4-benzyloxyphenyl) -2-[4-(2-o-
  tolylethoxy)benzoylamino]propionic acid methyl ester;
  (2S) -3 - (4-benzyloxyphenyl) -2 - \{4 - [3 - (4 - benzyloxyphenyl) - (4 - benzyloxyphenyloxyphenyl) - (4 - benzyloxyphenyloxyphenyloxyphenyl) - (4 - benzyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyphenyloxyph
 propoxyphenoxy)propoxy]benzoylamino}propionic
                                                                                                                acid
                                                                                                                                methyl
  ester;
  (2S) -3-(4-benzyloxyphenyl) -2-[4-(3-
  methoxybenzyloxy)benzoylamino]propionic acid methyl ester;
  (2S) -3-(4-benzyloxyphenyl) -2-[4-(2-ethoxybenzyloxy)benzoylami
 no]propionic acid methyl ester;
  (2S) -3-(4-benzyloxyphenyl) -2-[4-(4-butylbenzyloxy) benzoylamin
 o]propionic acid methyl ester;
  (2S) -2-[4-(4-butylbenzyloxy)benzoylamino]-3-cyclohexylpropion
  ic acid methyl ester;
  (2S) -2-{4-[2-(3-methylquinoxalin-2yloxy)ethoxy]benzoylamino}-
  3-phenylpropionic acid methyl ester;
  (2S) -3-(4-benzyloxyphenyl) -2-[4-(2-pyridin-2-ylethoxy)benzoyl
 amino]propionic acid methyl ester;
  (2S) -3-(4-benzyloxyphenyl) -2-\{4-[2-(3-methylquinoxalin-2-
 yloxy)ethoxy]benzoylamino{propionic acid methyl ester;
  (2S) -3 - (4-benzyloxyphenyl) -2 - \{4-[2-(pyridin-2-
 yloxy)ethoxy|benzoylamino|propionic acid methyl ester;
  (2S) -3 - (4-benzyloxyphenyl) -2 - {4-[2-(quinolin-8-
 yloxy)ethoxy]benzoylamino}propionic acid methyl ester;
  (2S) -3-(4-benzyloxyphenyl) -2-\{4-[2-(quinolin-7-
 yloxy)ethoxy]benzoylamino}propionic acid methyl ester;
  (2S) -3 - (4-benzyloxyphenyl) -2 - {4-[2-(quinolin-2-
 yloxy)ethoxy]benzoylamino}propionic acid methyl ester;
(2S)-3-(4-benzyloxyphenyl)-2-\{4-[3-(3-methylquinoxalin-2-
 yloxy)propoxy]benzoylamino}propionic acid methyl ester;
  (2S) -3-(4-bromophenyl) -2-\{4-[2-(3-methylquinoxalin-2-
 yloxy)ethoxy]benzoylamino}propionic acid methyl ester;
  (2S) -3-(4-fluorophenyl) -2-\{4-[2-(3-methylquinoxalin-2-
 yloxy)ethoxy]benzoylamino}propionic acid methyl ester;
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(2S) -3-(4-benzyloxyphenyl) -2-\{4-[2-(3-methylquinoxalin-2-
 yloxy)ethoxy]benzoylamino}propionic acid ethyl ester;
 (2S) -3-(4-benzyloxyphenyl) -2-\{4-[2-(3-methylquinoxalin-2-
 yloxy)ethoxy]benzoylamino}propionic acid isopropyl ester;
 (2S) -3-(4-benzyloxyphenyl) -2-\{4-[2-(3-methylquinoxalin-2-
 yloxy)ethoxy]benzoylamino}propionic acid propyl ester;
 (2S) -2-(4-benzyloxybenzoylamino) -3-(4-benzyloxyphenyl) propion
 ic acid:
 (2S) -2-[4-(3-benzyloxybenzyloxy)benzoylamino]-3-(4-
benzyloxyphenyl) propionic acid;
 3-{(3-benzyloxybenzyl)-[4-(2-
dibenzylaminoethoxy)benzoyl]amino}propionic acid;
3-((3-benzyloxybenzyl)-{3-[2-(3-methylquinoxalin-2-
yloxy) ethoxy] benzoyl amino) propionic acid;
3-{(3-benzyloxybenzyl)-[4-(3-benzyloxybenzyloxy)benzoyl]amino
}propionic acid;
2-[4-(4-benzyloxybenzyloxy)benzoylamino]-3-(4-benzyloxyphenyl
)propionic acid;
(2S) -2-[3-(4-benzyloxybenzyloxy)benzoylamino]-3-(4-
benzyloxyphenyl) propionic acid;
3-(4-benzyloxyphenyl)-2-[3-(biphenyl-4-ylmethoxy)benzoylamino
lpropionic acid;
2-[4-(3-benzyloxybenzyloxy)benzoylamino]-3-(4-bromophenyl)pro
pionic acid;
3-(4-benzyloxyphenyl)-2-[4-(4-butylbenzyloxy)benzoylamino]pro
pionic acid;
2-[4-(4-butylbenzyloxy)benzoylamino]-3-cyclohexylpropionic
acid:
{(3-benzyloxybenzyl)-[4-(4-butylbenzyloxy)benzoyl]amino}aceti
c acid:
3-{(3-benzyloxybenzyl)-[4-(4-butylbenzyloxy)benzoyl]amino}pro
pionic acid;
```

- 3-(4-benzyloxyphenyl)-2-[4-(2-bromobenzyloxy)benzoylamino]propionic acid;
- 3-(4-benzyloxyphenyl)-2-[4-(2-chlorobenzyloxy)benzoylamino]propionic acid;
- 3-(4-benzyloxyphenyl)-2-[4-(2-methylbenzyloxy)benzoylamino]propionic acid;
- 3-(4-benzyloxyphenyl)-2-[4-(3-

trifluoromethylbenzyloxy)benzoylamino]propionic acid; and

3-(4-benzyloxyphenyl)-2-[4-(2-

trifluoromethylbenzyloxy) benzoylamino] propionic acid.

description and claims, the terms Throughout the  $(C_1-C_4)$  -alkyl,  $(C_1-C_{10})$  -alkyl,  $(C_1-C_4)$  -alkoxyl,  $(C_1-C_4)$  -alkanovl,  $(C_1-C_4)$  -alkoxycarbonyl and  $(C_1-C_4)$ -alkanoyloxy shall be construed as straight branched.

Some of the compounds of formula (I) of the present invention may have one or several chiral centres. The present invention includes each one of the possible stereoisomers and mixtures thereof, particularly racemic mixtures thereof. A single enantiomer may be prepared by any of the commonly used processes, for example, by chromatographic separation of the racemic mixture on a stationary chiral phase, by resolution of the racemic mixture by fractional crystallisation techniques of the diastereomeric salts thereof, by chiral synthesis, by enzymatic resolution or by biotransformation.

Pharmaceutically acceptable salts include, among others, addition salts of inorganic acids such as hydrochloric, hydrobromic, nitric, sulphuric and phosphoric, as well as addition salts of organic acids such as acetic, benzenesulphonic, benzoic, camphorsulphonic, mandelic,

methanesulphonic, oxalic, succinic, fumaric, tartaric, and maleic. Likewise, an acid proton in compounds of formula (I) may be substituted by a metallic ion, for example, alkaline metal ion, an alkaline-earth metal ion or aluminium ion; or may be coordinated with an organic or inorganic base. acceptable organic base An diethylamine and triethylamine. An acceptable inorganic base includes aluminium hydroxide, calcium hydroxide, potassium hydroxide, sodium carbonate, and sodium hydroxide. There may be more than one cation or anion depending on the number of functions with charge and on the valency of cations and anions.

Some of the compounds of formula (I) of the present invention may exist in unsolvated as well as solvated forms such as, for example, hydrates. The present invention encompasses all such above-mentioned forms which are pharmaceutically active. Some of the compounds of general formula (I) may exhibit polymorphism, encompassing the present invention all the possible polymorphic forms, and mixtures thereof.

Compounds of general structure (I) may be prepared following various processes perfectly known by any skill person in the field of organic synthesis. Compounds of the present invention may be synthesized using the methods described below, as well as other processes known in the field of organic synthesis. Preferred methods include, but are not limited to, the general processes shown in the attached schemes.

#### Method A

According to a first method (Method A), the phenolic acid (II) is treated with the amine derivative (III) presence of a suitable coupling agent, for example the combination of 1-(3-dimethylaminopropyl)-3-ethylcarbodiimide (EDC) and 1-hydroxybenzotriazole (HOBT), or with thionyl chloride in the presence of a tertiary base such as triethylamine (Elmore, Amino Acids Pep. Proteins 2001, 32, 107-162). Final compounds (Ia) are obtained by Williamson etherification by displacement of a leaving group (LG) bonded to a type -Z radical with the phenol (IV) (using for example  ${
m NaH}$ ,  ${
m K_2CO_3}$  or  ${
m Cs_2CO_3}$  as a base in a solvent such as DMF or acetone; (Bal-Tembe et al., Bioorg. Med. Chem. 1997, 1381-1388; Cantello et al., J. Med. Chem. 1994, 3977-3985, Solar et al., J. Org. Chem. 1966, 31, 1996-1997; EP 875510), or by Mitsunobu reaction between (IV) and a Z-OHtype alcohol in the presence of, for example, diethyl azodicarboxylate (DEAD) and triphenylphosphine tetrahydrofurane as a solvent (Mitsunobu, Synthesis 1981, 1; Hughes, Org. React. 1992, 42, 335).

#### Method B

An alternative strategy (Method B) involves prior alkylation of the phenolic esters (V). After basic hydrolysis of the resulting ester, the final compounds (I) are synthesized by reaction with the amine derivative (III). Alternatively, and only in the specific case of para substitution of the aromatic ring, the phenolic ether (VI) may be formed by aromatic nucleophilic substitution starting from the fluorinated compound (VII).

When -Z is a radical of the  $-(CH_2)_s-X-P-I-J-T$  type where X is O or S, for the alkylation of the phenol another alternative procedure may be followed (Method C).

#### Method C

The phenol (IV) or (V) is treated with the suitable doubly functionalised alkylidene derivative (EP 875510) and, then, a nucleophilic substitution reaction with the desired alcohol or thiol is carried out to obtain the compounds (Iaa), and (Iab) or the esters (Xa) and (XIa), depending on the initial phenol. The hydrolysis of the esters (Xa) and (XIa) and their subsequent reaction with the amine derivative (III) also leads to the compounds (Iaa) and (Iab). The derivatives of

the sulphoxide (Iac) and sulphone (Iad) types are obtained by oxidation of the corresponding thioether (Iab) in the presence of oxidizing agents such as, for example, hydrogen peroxide or m-chloroperbenzoic acid.

# Method D

When -Z is a radical of the -(CH<sub>2</sub>)<sub>s</sub>-NR4-P-I-J-T type, the amines (Iae) may be obtained starting from the phenols (IV) or (V) following two alternative alkylation routes in every case (Method D). In the case of phenol (IV), the reaction with a doubly functionalised alkylidene derivative and, then, the nucleophilic substitution with the desired amines; or the etherification with the protected amine compound (XII) (as a trifluoroacetamide derivative, for example), and subsequent functionalisation of the amine released after deprotection (in a basic medium, or with NaBH4 (Harland and Hodge Synthesis 1984, 941-943)) yields the desired compounds. The tertiary amines of the (Iaeb) and (Iaec) types are obtained by the treatement of the compound (Iaea) with alkylating agents or by reductive alkylation, respectively. The amides (Iaed) are synthesized by acylation of the compound (Iaea) with the corresponding acid derivative in the presence of a tertiary amine, or by treating the secondary amine with an acid in the presence of a coupling agent such as, for example the combination of EDC and HOBT (Elmore, Amino Acids Pep. Proteins 2001, 32, 107-162). In the case of the phenol (V), the amines (Iae) are obtained by reaction of their precursor acids (XVIb), (XVIIb) and (XVIIIb) with the amine derivatives (III) following the methods outlined above. These acids, in turn, are obtained from the phenol (V) following an analogous process to that used in the case of the phenol (IV).

The Z-OH or Z-LG type compounds are products that have already been described. Some of them are commercially available or may be prepared following methods analogous to those used to synthesize others that are already known, such as those that are explained in detail in the following documents: EP 03062228; WO 97/31907; WO 01/00603; Daoud et

al., J. Indian Chem. Soc. 1989, 66, 316-318 and Aquino, J. Med. Chem. 1996, 39, 562-569, some of them summarised in Scheme 1.

# Scheme 1

Some of the compounds (III) are commercially available products, particularly when they are  $\alpha$ -amino acids. Others have already been described or may be synthesized following various routes, most of which have been described (March, Advanced Organic Chemistry, 1991, Ed. John Wiley & Sons; Juaristi, Enantioselective Synthesis of  $\beta$ -Amino Acids, 1997, Ed. Wiley-VDH).

An approach for the preparation of the  $\alpha$ -amino acids (W is -NH-CH(E)-) is the Sorensen synthesis (Mori, Tetrahedron 1985, 2369-2377; Scheme 2), wherein dialkyl

acyl-amide-malonate is alkylated in a basic medium and, after subsequent hydrolysis and decarboxylation, the desired  $\alpha$ -amino acids (IIIa) are obtained.

### Scheme 2

N-Substituted glycines and  $\beta$ -alanines (W is  $-N(E)-CH_2-$  or  $-N(D)-CH_2-CH_2-$ ) may be synthesized by the methods shown bellow, either by reductive amination of the corresponding glycine or alanine with the suitable aldehyde (Scheme 3) using reducing agents such as NaBH<sub>4</sub>, NaBH<sub>3</sub>CN or NaBH(AcO)<sub>3</sub>, or by nucleophilic substitution of the esters (XX) or (XXI) with the suitable amine (Scheme 4).

#### Scheme 3

#### Scheme 4

An alternative process for the synthesis of  $\beta$ -alanines (III) would be the addition of the corresponding amine to the  $\alpha,\beta$ -unsaturated ester of interest (Scheme 5)

#### Scheme 5

OR 
$$\frac{D-NH_2, Et_3N}{EtOH \text{ or } CHCl_3}$$
  $D$   $N$  OR  $(XXII)$   $(IIIg)$ 

Conversion of a compound of formula (I) into a different one involves transforming the -CO-A group into a different group. The modifications considered are: the hydrolysis of the -COOR1 substituent, wherein -R1 represents a  $-(C_1-C_4)$ -alkyl moiety, to yield the corresponding carboxylic acid; the esterification of the carboxylic acids (Ib) with the R1OH alcohols; and, lastly, the amination of the -COOR1 group to obtain the corresponding amides. The hydrolysis methods used are the usual ones, for example, using an alkaline hydroxide

in aqueous methanol. The amination and esterification processes are those commonly used (Scheme 6).

#### Scheme 6

(ld)

(lc)

The compounds of the present invention are ligands of the PPAR $\gamma$  and PPAR $\delta$ . Therefore, they are expectedly useful for the prophylactic and/or curative treatment of a condition mediated by PPAR $\gamma$  or PPAR $\gamma$  / PPAR $\delta$  in an animal including a human. Thus, an aspect of the present invention relates to the use of these compounds for the preparation of a medicament for the prophylactic and/or curative treatment of a condition associated with metabolic diseases, particularly non-insulin-dependent mellitus, diabetes obesity, hypercholesterolaemia, and other lipid-mediated pathologies, cardiovascular diseases associated with metabolic syndrome, inflammation and inflammatory processes in general, such as rheumatoid arthritis, atherosclerosis, psoriasis, intestinal inflammatory disease, bone diseases, particularly osteoporosis, cancer, skin wound healing, and cutaneous

disorders associated with an anomalous differentiation of epidermic cells, particularly the formation of keloids. Therefore, this aspect of the invention is related to a method for the prophylactic and/or curative treatment of an animal, including a human, suffering from the above-mentioned pathologies, which comprises administering a therapeutically effective amount of a formula (I) compound.

Another aspect of the invention relates to pharmaceutical compositions comprising a therapeutically effective amount of the compound (I), as the active ingredient, together with appropriate amounts of pharmaceutically acceptable excipients. Preferably, the compound is administered orally, parenterally or topically.

Throughout the description and claims the word "comprise" and variations of the word, such as "comprising", is not intended to exclude other additives, components, elements or steps. The disclosures in the abstract accompanying this application and in the application from which priority is claimed, are incorporated herein as reference.

Additional objects, advantages and novel features of the invention will be set forth in part in the description, and in part will become apparent to those skilled in the art upon examination of the description or may be learned by practice of the invention. The present invention will be further illustrated by the following examples. The examples are given by way of illustration only and are not to be construed as limiting.

#### **EXAMPLES**

<sup>1</sup>H-NMR spectra of the compounds have been recorded using a VARIAN GEMINI-200 MHz and a VARIAN UNITY-300 MHz equipment and chemical shifts are expressed as ppm ( $\delta$ ) from the internal reference TMS. Mass spectra have been obtained with an Agilent 1100 VL mass spectrometer. The nomenclature of the different compounds used in the present document is based on software AUTONOM (Automatic Nomenclature) from the Beilstein Institute, which uses the IUPAC systematic nomenclature.

#### INTERMEDIATES (IV)

#### METHOD A:

To a solution of 1 eq of the aminic derivative (III), 1 eq of the acid (II), 1.3 eq of HOBT, and 1.3 eq of EDC in tetrahydrofurane, the solution being 0.2 M in the aminic derivative, 2 eq of triethylamine were added. The reaction mixture was stirred at room temperature for 18h, and then water and dichloromethane were added. The organic layer was separated, and the aqueous layer was extracted once with dichloromethane. The organic layers were combined, dried over anhydrous sodium sulfate, and filtered. The solvent was distilled off under reduced pressure and the obtained residue was purified by column chromatography.

#### METHOD B:

To a solution 0.1 M of 1 eq of the aminic derivative (III) in anhydrous dichloromethane, 2 eq of triethylamine, and 1.2 eq of the corresponding acid chloride, were added. The reaction mixture was either refluxed with stirring (secondary amines) or stirred at room temperature (primary amines) for 18h, then

treated with water, twice with sodium bicarbonate and, finally, with a brine. The solvent was distilled off under reduced pressure and the obtained residue was purified by column chromatography.

## METHOD C:

To a solution of 1 eq of the aminic derivative (III), and 1 eq of the corresponding acid chloride in ethyl acetate, the solution being 0.05 M in the aminic derivative, Amberlyst 21 (200 mg/mmol acid chloride) was added. The reaction mixture was either refluxed with stirring (secondary amines) or stirred at room temperature (primary amines). Then, the resin was filtered, and the solvent was distilled off under reduced pressure. The obtained residue was purified by column chromatography.

TABLE 1

INTERM	·
IV.1	(2S)-3-(4-Benzyloxyphenyl)-2-(4-hydroxybenzoylami no)propionic acid methyl ester; <sup>1</sup> H-NMR: 7.52 (d, 2H), 7.31-7.20 (m, 5H), 6.97 (d, 2H), 6.81 (d, 2H), 6.74 (d, 2H), 4.94 (s,2H), 4.86 (m, 1H), 3.66 (s, 3H), 3.06 (m, 2H)
IV.2	(2S)-3-(4-Benzyloxyphenyl)-2-(3-hydroxybenzoylami no)propionic acid methyl ester; MS: 406
IV.3	(2S)-3-Cyclohexyl-2-(4-hydroxybenzoylamino)propio nic acid methyl ester; MS: 306

# INTERMEDIATES (VIa)

#### METHOD D:

A suspension of 1 eq of phenol (V), 3 eq of anhydrous potassium carbonate, and 1.3 eq of the Z-LG derivative in ethyl acetate, the suspension being approximately 0.5 M in the phenol (V), was refluxed for 18h. Then, the suspension was allowed to cool down and the white solid was filtered. The solvent was distilled off under reduced pressure, and the obtained residue was purified by column chromatography.

#### METHOD E:

A suspension of 1 eq of phenol (V), 3 eq of cesium carbonate, 1.3 eq of the Z-LG derivative, and a catalythic amount of potassium iodide in anhydrous dimethylformamide (DMF), the suspension being 0.1 M in the phenol (V), was heatet at 80°C for 18h. Then, the suspension was allowed to cool down at room temperature, and then water and ethyl acetate were added. The organic layer was washed three times with brine, then dried over anhydrous sodium sulfate and filtered. The solvent was distilled off under reduced pressure, and the obtained residue was purified by column chromatography.

#### METHOD F:

To a solution 0.1 M of 1 eq of phenol (V) in anhydrous DMF, containing a catalythic amount of potassium iodide, 1.1 eq of 60% sodium hydride in paraffin were added. The suspension was stirred at room temperature for 10 minutes and then 1.1 eq of the Z-LG derivative were added. The resulting solution was stirred at 80°C for 18h, and then allowed to cool down to room temperature. After treating with water and ethyl acetate, the organic layer was washed three times with brine, then dried over anhydrous sodium sulfate and filtered. The

solvent was distilled off under reduced pressure, and the obtained residue was purified by column chromatography.

#### METHOD G:

To a solution of 1 eq of phenol (V), 2.2 eq of the Z-OH of triphenylphosphine derivative, and 2.2 eg tetrahydrofurane, the solution being 0.2 M in the phenol, 2.2 eq of DEAD were added under inert atmosphere. reaction mixture was stirred at room temperature for 18h. Then, the solvent was distilled off under reduced pressure, the obtained residue was purified by column and chromatography.

#### METHOD H:

To a solution 0.01 M of 1 eq of the Z-OH derivative in anhydrous DMF, 1.1 eq of 60% sodium hydride in paraffine were added slowly with stirring until bubbling was finished. Then, 1.2 eq of 4-fluorobenzoic acid methyl ester were added, and the mixture was heated at 80°C for 20h. The resulting solution was carefully poured over water/ice, and the mixture formed was extracted four times with ethyl acetate. The organic extracts were washed five times with brine, then dried over anhydrous magnesium sulfate and filtered. The solvent was distilled off under reduced pressure, and the obtained residue was purified by column chromatography.

TABLE 2

INTERM	
VIa.1	4-[2-(Dibenzylamino)ethoxy]benzoic methyl ester;
	<sup>1</sup> H-NMR: 8.00 (d, 2H), 7.45-7.20 (m, 10H), 6.85
	(d, 2H), 4.05 (t, 2H), 3.90 (s, 3H), 3.75 (s,
	4H), 2.91 (t, 2H)
VIa.2	4-[2-(2-Phenyloxazol-4-yl-5-methyl)ethoxy]benzoic
	acid methyl ester; <sup>1</sup> H-NMR: 7.99-7.85 (m, 4H),
	7.44-7.38 (m, 3H), 6.88 (d, 2H), 4.23 (t, 2H),
	3.85 (s, 3H), 2.98 (t, 2H), 2.36 (s, 3H)
VIa.3	3-[2-Dibenzylamino)ethoxy]benzoic acid methyl
	ester; <sup>1</sup> H-NMR:7.65-7.00 (m, 14H), 4.09 (t, 2H),
•	3.92 (s, 3H), 3.74 (s, 4H), 2.93 (t, 2H)
VIa.4	3-(4-Butylbenzyloxy)benzoic acid methyl ester;
	MS: 299
VIa.5	4-(2-Pyridin-2-ylethoxy)benzoic acid methyl
	ester; MS: 258
VIa.6	4-(2-Naphthalen-2-ylethoxy)benzoic acid methyl
	ester; MS: 307
VIa.7	4-(4-Butylbenzyloxy)benzoic acid methyl ester;
	MS: 299
VIa.8	3-(4-Benzyloxybenzyloxy)benzoic acid methyl
	ester; MS: 349
VIa.9	4-(3-Benzyloxybenzyloxy)benzoic acid methyl
	ester; MS: 349
VIa.10	3-(3-Benzyloxybenzyloxy)benzoic acid methyl
	ester; MS: 349
	I

### INTERMEDIATES (VIb)

#### METHOD J:

To a solution 0.1 M of 1 eq of intermediate (VIa) in a mixture of 3:1 tetrahydrofurane:methanol, between 1.5 and 10 eq of lithium hydroxide 1 M in water were added. The resulting mixture was stirred at room temperature for 18h, then treated with HCl 1 N until pH=5-6, and extracted twice with ethyl acetate. The organic layers were dried over anhydrous sodium sulfate and filtered. The solvent was distilled off under reduced pressure, and the obtained residue was purified by column chromatography.

#### METHOD K:

To a solution 0.05 M of 1 eq of intermediate (VIa) in methanol, 5 eq of potassium hydroxide 1.4 M were added. The resulting solution was stirred at room temperature for 18h, then treated with HCl 1 N until acid pH, and extracted with ethyl acetate twice. The organic extracts were dried over anhydrous sodium sulfate and filtered. The solvent was distilled off under reduced pressure, and the obtained residue was purified by column chromatography.

TABLE 3

INTERM	
VIb.1	4-[2-(Dibenzylamino)ethoxy]benzoic acid; H-NMR:
	7.98 (d, 2H), 7.47-7.27 (m, 10H), 6.91 (d, 2H),
	4.14 (t, 2H), 3.78 (s, 4H), 2.95 (t, 2H)

VIb.2	4-[2-(2-Phenyloxazol-4-yl-5-methyl)ethoxy]benzoic
	acid; <sup>1</sup> H-NMR: 7.95-7.83 (m, 4H), 7.50-7.46 (m,
	3H), 7.01 (d, 2H), 4.28 (t, 2H), 2.95 (t, 2H),
	2.35 (s, 3H)
VIb.3	3-[2-(Dibenzylamino)ethoxy]benzoic acid; <sup>1</sup> H-NMR:
	7.54-7.00 (m, 14H), 4.40 (t, 2H), 4.31 (s, 4H),
	3.39 (t, 2H)
VIb.4	4-(3-Benzyloxybenzyloxy)benzoic acid; MS: 335
VIb.5	3-(3-Benzyloxybenzyloxy)benzoic acid; MS: 335
VIb.6	4-(2-Pyridin-2-ylethoxy)benzoic acid; MS: 244
VIb.7	3-(4-Butylbenzyloxy)benzoic acid; MS: 285
VIb.8	4-(2-Naphthalen-2-ylethoxy)benzoic acid; MS: 293
VIb.9	4-(4-Butylbenzyloxy)benzoic acid; MS: 285
VIb.10	3-(4-Benzyloxybenzyloxy)benzoic acid; <sup>1</sup> H-NMR:
	7.60 (br s, 2H), 7.43-7.22 (m, 8H), 7.10 (dd,
	1H), 6.94 (d, 2H), 5.02 (s, 2H), 4.97 (s, 2H)

### INTERMEDIATES (VIII)

### METHOD L:

To a suspension of 1 eq of phenol (IV), and 2 eq of cesium carbonate in anhydrous DMF, the suspension being 0.4 M in the phenol, 100 eq of  $LG_1-(CH_2)_s-LG_2$  were added. The reaction mixture was heated at 90°C for 18h, and then treated with water and 1,2-dichloroethane. The organic layer was washed three times with brine, then dried over anhydrous sodium sulfate and filtered. The solvent was distilled off under reduced pressure, and the obtained residue was purified by column chromatography.

TABLE 4

INTERM	
INTERM	·
VIII.1	(2S)-3-(4-Benzyloxyphenyl)-2-[3-(2-chloroethoxy)b
	enzoylamino]propionic acid methyl ester; <sup>1</sup> H-NMR:
	7.71 (d, 2H), 7.50-7.33 (m, 5H), 7.06 (d, 2H),
	6.93-6.89 (m, 4H), 6.58 (d, 1H), 5.07-5.01 (m,
	3H), 4.25 (t, 2H), 3.82 (t, 2H), 3.76 (s, 3H),
	3.20 (m, 2H)
VIII.2	(2S)-3-(4-Benzyloxyphenyl)-2-[3-(2-chloroethoxy)b
	enzoylamino]propionic acid methyl ester; <sup>1</sup> H-NMR:
	7.50-7.25 (m, 8H), 7.10-7.00 (m, 3H), 6.91 (d,
	2H), 6.57 (d, 1H), 5.10-5.00 (m, 3H), 4.27 (t,
	2H), 3.83 (t, 2H), 3.78 (s, 3H), 3.24 (dd, 1H),
	3.16 (dd, 1H)

# INTERMEDIATE (Xa), (XVIa) and (XIa)

The following compounds were synthesized according to any of methods D, E or F, starting from intermediates (IX).

TABLE 5

INTERM	
Xa.1	4-[2-(3-Methylquinoxalin-2-yloxy)ethoxy]benzoic
	acid methyl ester; <sup>1</sup> H-NMR: 8.02 (d, 2H), 7.95 (d,
	1H), 7.88 (d, 1H), 7.65-7.48 (m, 2H), 7.00 (d,
	2H), 4.87 (t, 2H), 4.48 /t, 2H), 3.89 (s,3H),
	2.64 (s, 3H)
Xa.2	3-[2-(3-Methylquinoxalin-2-yloxy)ethoxy]benzoic
	acid methyl ester; MS: 339

XVIa.1	3-[2-(3-Methyl-2-oxo-2H-quinoxalin-1-yl)ethoxy]be
	nzoic acid methyl ester; MS: 339
XVIa.2	4-[2-(3-Methyl-2-oxo-2H-quinoxalin-1-yl)ethoxy]be
	nzoic acid methyl ester; MS: 339
XIa.1	3-[2-(Thiophen-2-ylsulfanyl)ethoxy]benzoic acid
	methyl ester; MS: 295

# INTERMEDIATE (Xb), (XVIb) and (XIb)

The following compounds were synthesized according to any of methods J or K, starting from intermediates (Xa), (XVIa) or (XIa).

TABLE 6

INTERM	
Xb.1	4-[2-(3-Methylquinoxalin-2-yloxy)ethoxy]benzoic
	acid; MS: 325
Xb.2	3-[2-(3-Methylquinoxalin-2-yloxy)ethoxy]benzoic
·	acid; MS: 325
XVIb.1	3-[2-(3-Methyl-2-oxo-2H-quinoxalin-1-yl)ethoxy]be
	nzoic acid; MS: 325
XVIb.2	4-[2-(3-Methyl-2-oxo-2H-quinoxalin-1-yl)ethoxy]be
	nzoic acid; MS: 325
XIb.1	3-[2-(Thiophen-2-ylsulfanyl)ethoxy]benzoic acid;
	MS: 281
	<u></u>

### INTERMEDIATE (XIV)

The following compounds were synthesized according to any of methods D to G, starting from phenol (V) and amines (XIIa) or (XIIb).

#### TABLE 7

INTERM	
XIV.1	3-{2-[Benzyl-(2,2,2-trifluoroacetyl)amino]ethoxy}
	benzoic acid methyl ester; MS: 382
XIV.2	4-{2-[Benzyl-(2,2,2-trifluoroacetyl)amino]ethoxy}
	benzoic acid methyl ester; MS: 382

## INTERMEDIATE (XV)

The following compounds were synthesized either according to any of methods D to F, starting either from intermediate (IX), and the corresponding amines, or according to method M, from intermediate (XIV).

### METHOD M:

To a solution 0.1 M of 1 eq of intermediate (XIV) (PG = trifluoroacetyl) in a mixture of tetrahydrofurane:methanol (3:1), 5 eq of lithium hydroxide 1 M in water were added. The solution was stirred until complete dissolution, then diluted with a mixture of water/ethyl acetate, and then acidified to pH=5 with HCl 1 N. The organic layer was dried over anhydrous sodium sulfate and filtered. The solvent was distilled off under reduced pressure, and the obtained residue was disolved in methanol 0.1 M and treated with 3.2 eq of thionyl chloride. The solution was refluxed for 18h, and then allowed to cool down to room temperature. The solvent was distilled

off under reduced pressure and the residual solid was broken up with hexane.

TABLE 8

INTERM	
XV.1	4-(2-Benzylaminoethoxy) benzoic acid methyl ester;
	H-NMR: 7.96 (d, 2H), 7.34-7.21 (m, 5H), 6.89 (d,
	2H), 4.12 (t, 2H), 3.87 (s, 2H), 3.85 (s, 3H),
	3.10 (t, 2H); MS: 286
XV.2	3-(2-Benzylaminoethoxy)benzoic acid methyl ester;
	MS: 286

## INTERMEDIATE (XVIIIa)

The following compounds were synthesized according to any of methods A to C, starting from intermediate (XV) and the corresponding acids.

TABLE 9

INTERM	
XVIIIa.1	4-[2-(N-Benzyl-N-benzoylamino)ethoxy]benzoic
	acid methyl ester; <sup>1</sup> H-NMR: 7.99 (d, 2H),
	7.43-6.77 (m, 12H), 4.91-4.70 (m, 2H),
	4.35-3.65 (m, 4H), 3.90 (s, 3H)
XVIIIa.2	4-{2-[N-Benzyl-N-(pyridin-3-ylcarbonyl)amino]et
·	hoxy}benzoic acid methyl ester; <sup>1</sup> H-NMR:
	8.80-6.85 (m, 13H), 4.91-4.69 (m, 2H),
	4.36-3.60 (m, 4H), 3.86 (s, 3H)

## INTERMEDIATE (XVIIIb)

The following compounds were synthesized according to methods J or K, starting from intermediate (XVIIIa).

TABLE 10

INTER	
М	
XVIII	4-[2-(N-Benzyl-N-benzoylamino)ethoxy]benzoic;
b.1	<sup>1</sup> H-NMR: 8.06 (d, 2H), 7.41-6.81 (m, 12H),
	4.94-4.71 (m, 2H), 4.37-3.67 (m, 4H)
XVIII	4-{2-[N-Benzyl-N-(pyridin-3-ylcarbonyl)amino]ethox
b.2	y}benzoic acid; <sup>1</sup> H-NMR: 8.75-6.85 (m, 13H),
	4.91-4.72 (m, 2H), 4.36-3.60 (m, 4H)

## EXAMPLE (Ia):

The compounds of formula (Ia) shown in Table 11 were synthesized according to any of methods D to G, starting from intermediate (IV):

TABLE 11

Ex.	
1	(2S) -3-(4-Benzyloxyphenyl)-2-[4-(3-phenylallyloxy
٠.	)benzoylamino]propionic acid methyl ester;
	<sup>1</sup> H-NMR: 7.73 (d, 2H), 7.43-7.25 (m, 10H), 7.07
	(d, 2H), 6.98 (d, 2H), 6.92 (d, 2H), 6.76 (d,
	1H), 6.57 (d, 1H), 6.42 (dt, 1H), 5.10-5.00 (m,
,	3H), 4.75 (dd, 2H), 3.77 (s, 3H), 3.28-3.16 (m,
	2H)
2	(2S) -3-(4-Benzyloxyphenyl)-2-[4-(4-phenoxybenzylo
	xy)benzoylamino]propionic acid methyl ester;
·	<sup>1</sup> H-NMR: 7.71 (d, 2H), 7.42-6.88 (m, 20H), 6.48
	(d, 1H), 5.07-5.04 (m, 5H), 3.77 (s, 3H),
	3.25-3.10 (m, 2H)
3	(2S) -3-(4-Benzyloxyphenyl)-2-[4-(biphenyl-4-
• .	ylmethoxy) benzoylamino] propionic acid methyl
	ester; <sup>1</sup> H-NMR: 7.72 (d, 2H), 7.65-7.26 (m, 14H),
	7.07-7.00 (m,4H), 6.90 (d, 2H), 6.48 (d, 1H),
	5.16 (s, 2H), 5.10-5.00 (m, 3H), 3.77 (s, 3H),
	3.30-3.10 (m, 2H)
4	(2S)-3-(4-Benzyloxyphenyl)-2-[4-(3-
	phenoxybenzyloxy)benzoylamino]propionic acid
	methyl ester; <sup>1</sup> H-NMR: 7.70 (d, 2H), 7.43-6.92 (m,
	20H), 6.48 (d, 1H), 5.08-5.04 (m, 5H), 3.77 (s,
	3H), 3.30-3.10 (m, 2H)
5	(2S) -2-[4-(3-Benzyloxybenzyloxy)benzoylamino]-3-(
	4-benzyloxyphenyl)propionic acid methyl ester;
	H-NMR: 7.70 (d, 2H), 7.43-6.92 (m, 20H), 6.48
	(d, 1H), 5.09 (s, 2H), 5.08 (s, 2H), 5.06-5.02
	(m, 3H), 3.77 (s, 3H), 3.27-3.14 (m, 2H)

6	(2S) -3-(4-Benzyloxyphenyl) -2-(4-phenethyloxybenzo
	ylamino) propionic acid methyl ester; <sup>1</sup> H-NMR: 7.69
	(d, 2H), 7.42-7.30 (m, 10H), 7.04 (d, 2H),
	6.92-6.88 (m, 4H), 6.45 (d, 1H), 5.06-5.00 (m,
	3H), 4.22 (t, 2H), 3.77 (s, 3H), 3.27-3.10 (m,
	4H)
7	(2S)-3-(4-Benzyloxyphenyl)-2-[4-(3-phenylpropoxy)
	benzoylamino]propionic acid methyl ester; <sup>1</sup> H-NMR:
	7.70 (d, 2H), 7.43-7.22 (m, 10H), 7.06 (d, 2H),
	6.93-6.89 (m, 4H), 6.51 (d, 1H), 5.10-5.02 (m,
	3H), 4.00 (t, 2H), 3.77 (s, 3H), 3.25-3.15 (m,
	2H), 2.83 (t, 2H), 2.12 (m, 2H)
8	(2S) -2-[4-(4-Benzyloxybenzyloxy)benzoylamino]-3-(
	4-benzyloxyphenyl)propionic acid methyl ester.
	H-NMR: 7.70 (d, 2H), 7.46-7.35 (m, 13H),
	7.06-6.97 (m, 7H), 6.89 (d, 2H), 6.49 (d, 1H),
	5.09-5.00 (m, 7H), 3.76 (s, 3H), 3.26-3.11 (m,
	2H)
9	(2S)-3-(4-Benzyloxyphenyl)-2-[4-(biphenyl-2-ylmet
	hoxy)benzoylamino]propionic acid methyl ester;
	MS: 572
10 .	(2S)-3-(4-Benzyloxyphenyl)-2-[3-(3-phenylallyloxy
	)benzoylamino]propionic acid methyl ester; MS:
	522
11	(2S) -2-[3-(4-Benzyloxybenzyloxy)benzoylamino]-3-(
	4-benzyloxyphenyl)propionic acid methyl ester;
	<sup>1</sup> H-NMR: 7.47-7.26 (m, 15H), 7.13-7.00 (m, 5H),
	6.93 (d, 2H), 6.61 (d, 1H), 5.09-5.00 (m, 7H),
	3.78 (s, 3H), 3.29-3.15 (m, 2H)
12	(2S)-3-(4-Benzyloxyphenyl)-2-[3-(biphenyl-4-ylmet
	hoxy)benzoylamino]propionic acid methyl ester;
	MS: 572
	<del></del>

13	(2S) -3-(4-Benzyloxyphenyl) -2-[3-(3-phenoxybenzylo
	xy)benzoylamino]propionic acid methyl ester; MS:
	588
14	(2S) -3-(4-Benzyloxyphenyl) -2-[3-(3-phenylpropoxy)
	benzoylamino]propionic acid methyl ester; MS: 524
15	(2S) -3-(4-Benzyloxyphenyl) -2-[4-(4-butoxybenzylox
	y)benzoylamino]propionic acid methyl ester; MS:
	568
16	(2S) -2-[4-(4-Butoxybenzyloxy)benzoylamino]-3-cycl
	ohexylpropionic acid methyl ester; MS: 468
17	(2S)-3-(4-Benzyloxyphenyl)-2-[4-(thiophen-3-ylmet
	hoxy)benzoylamino]propionic acid methyl ester;
	MS: 488
18	(2S)-3-(4-Benzyloxyphenyl)-2-[4-(2-bromobenzyloxy
	)benzoylamino]propionic acid methyl ester; MS:
	575
19	(2S) -3-(4-Benzyloxyphenyl) -2-[4-(3-bromobenzyloxy
	)benzoylamino]propionic acid methyl ester; MS:
	575
20	(2S) -3-(4-Benzyloxyphenyl) -2-[4-(2-chlorobenzylox
	y) benzoylamino] propionic acid methyl ester; MS:
	530
21 ·	(2S) -3-(4-Benzyloxyphenyl) -2-[4-(3-chlorobenzylox
	y) benzoylamino] propionic acid methyl ester; MS:
	530
22	(2S)-3-(4-Benzyloxyphenyl)-2-[4-(2-fluorobenzylox
	y) benzoylamino] propionic acid methyl ester; MS:
	514
23	(2S) -3-(4-Benzyloxyphenyl) -2-[4-(3-methylbenzylox
	y) benzoylamino] propionic acid methyl ester; MS:
	496

24	(2S)-3-(4-Benzyloxyphenyl)-2-[4-(3-trifluoromethy
	lbenzyloxy)-benzoylamino]propionic acid methyl
	ester; MS: 564
25	(2S)-3-(4-Benzyloxyphenyl)-2-[4-(2-methoxybenzylo
	xy)benzoylamino]propionic acid methyl ester; MS:
	526
26	(2S) -2-[4-(3-Bromobenzyloxy) benzoylamino] -3-cyclo
	hexylpropionic acid methyl ester; MS: 475
27	(2S)-3-(4-Benzyloxyphenyl)-2-[4-(2-methylbenzylox
	y)benzoylamino]propionic acid methyl ester; MS:
	510
28 .	(2S)-3-(4-Benzyloxyphenyl)-2-[4-(2-trifluoromethy
	lbenzyloxy)-benzoylamino propionic acid methyl
	ester; MS: 564
29	(2S)-3-(4-Benzyloxyphenyl)-2-[4-(2-o-tolylethoxy)
	benzoylamino]propionic acid methyl ester; MS: 524
30	(2S)-3-(4-Benzyloxyphenyl)-2-{4-[3-(4-
	propoxyphenoxy)propoxy]benzoylamino}propionic
	acid methyl ester; MS: 598
31	(2S)-3-(4-Benzyloxyphenyl)-2-[4-(3-methoxybenzylo
	xy) benzoylamino] propionic acid methyl ester; MS:
	526
32	(2S)-3-(4-Benzyloxyphenyl)-2-[4-(2-ethoxybenzylox
	y)benzoylamino]propionic acid methyl ester; MS:
	540
33	3-(4-Benzyloxyphenyl)-2-{4-[(diphenylcarbamoyl)me
	thoxy]-benzoylamino)propionic acid methyl ester;
	<sup>1</sup> H-NMR: 7.64 (d, 2H), 7.41-7.26 (m. 15H), 7.03
	(d, 2H), 6.91-6.81 (m, 4H), 6.55 (d, 1H),
	5.08-4.95 (m, 3H), 4.61 (s, 2H), 3.74 (s, 3H),
	3.26-3.06 (m, 2H)

34	3-(4-Benzyloxyphenyl)-2-{4-[(benzylphenylcarbamoy
	1) methoxy] -benzoylamino propionic acid methyl
	ester; <sup>1</sup> H-NMR: 7.65 (d, 2H), 7.40-6.77 (m, 21H),
	6.54 (d, 1H), 5.08-4.95 (m, 3H), 4.90 (s, 2H),
	4.42 (s, 2H), 3.74 (s, 3H), 3.25-3.06 (m, 2H)
35	3-(4-Benzyloxyphenyl)-2-{4-[(dibenzylcarbamoyl)me
	thoxy]-benzoylamino}propionic acid methyl ester;
	H-NMR: 7.69 (d, 2H), 7.42-7.16 (m, 15H), 7.05
	(d, 2H), 6.90 (d, 4H), 6.53 (d, 1H), 5.09-4.97
	(m, 3H), 4.83 (s, 2H), 4.62 (s, 2H), 4.51 (s,
	2H), 3.76 (s, 3H), 3.29-3.10 (m, 2H)
36	3-(4-Benzyloxyphenyl)-2-{4-[2-(10,11-dihydrodiben
	zo[b,f]azepin-5-yl)-2-
	oxoethoxy]benzoylamino}propionic acid methyl
	ester; <sup>1</sup> H-NMR: 7.65 (d, 2H), 7.41-6.81 (m, 19H),
,	6.49 (d, 1H), 5.09-4.97 (m, 3H), 4.80 (d, 1H),
	4.45 (d, 1H), 3.75 (s, 3H), 3.45-3.17 (m, 4H),
	2.93-2.81 (m, 2H)
37	3-(4-Benzyloxyphenyl)-2-{4-[(diphenylcarbamoyl)me
	thoxy]-benzoylamino}propionic acid; 1H-NMR: 7.61
	(d, 2H), 7.37-6.66 (m, 22H), 5.00-4.85 (m, 3H),
	4.59 (s, 2H), 3.30-3.10 (m, 2H)
38	3-(4-Benzyloxyphenyl)-2-(4-{[(3-methoxyphenyl)phe
	nylcarbamoyl]methoxy}-benzoylamino)propionic acid
	methyl ester; MS: 645
39 .	3-(4-Benzyloxyphenyl)-2-{4-[(cyclohexylphenylcarb
	amoyl)methoxy]-benzoylamino}propionic acid methyl
	ester; MS: 621

The compounds of formula (Ia) shown in Table 12 were synthesized according to any of methods A to C, starting from intermediate (VIb):

TABLE 12

Ex.	
40	{[4-(2-Dibenzylaminoethoxy)benzoyl]-(3-phenoxyben
	zyl)amino}acetic acid ethyl ester; <sup>1</sup> H-NMR:
	7.42-6.75 (m, 23H), 4.80-4.65 (m, 2H), 4.30-3.99
÷	(m, 6H), 3.72 (s, 4H), 2.90 (t, 2H), 1.27 (m, 3H)
41	{(3-Benzyloxybenzyl)-[3-(2-dibenzylaminoethoxy)be
	nzoyl]amino}acetic acid ethyl ester; <sup>1</sup> H-NMR:
	7.42-6.89 (m, 23H), 5.07-5.03 (m, 2H), 4.74-4.53
,	(m, 2H), 4.30-3.82 (m, 6H), 3.70 (s, 4H), 2.87
	(t, 2H), 1.32-1.19 (m, 3H)
42	{[3-(2-Dibenzylaminoethoxy)benzoyl]-(3-phenoxyben
	zyl)amino}acetic acid ethyl ester; <sup>1</sup> H-NMR:
	7.40-6.84 (m, 23H), 4.78-4.56 (m, 2H), 4.30-3.85
	(m, 6H), 3.70 (s, 4H), 2.86 (t, 2H), 1.33-1.19
	(m, 3H)
43	{[3-(2-Dibenzylaminoethoxy)benzoyl]-(4-phenoxyben
	zyl)amino}acetic acid ethyl ester; <sup>1</sup> H-NMR:
,	7.41-6.90 (m, 23H), 4.77-4.57 (m, 2H), 4.30-3.85
	(m, 6H), 3.71 (s, 4H), 2.88 (t, 2H), 1.33-1.19
	(m, 3H)
44	{(4-tert-Butylbenzyl)-[3-(2-dibenzylaminoethoxy)b
	enzoyl]amino}acetic acid ethyl ester; <sup>1</sup> H-NMR:
	7.41-6.80 (m, 18H), 4.78-4.57 (m, 2H), 4.25-3.42
	(m, 10H), 2.87 (m, 2H), 1.32-1.19 (m, 12H)
45	{[3-(2-Dibenzylaminoethoxy)benzoyl]-(3-benzyloxyb
	enzyl)amino}acetic acid ethyl ester; <sup>1</sup> H-NMR:
	7.41-6.80 (m, 23H), 5.07-5.03 (m, 2H), 4.78-4.57
	(m, 2H), 4.30-3.68 (m, 10H), 2.86 (m, 2H),
	1.33-1.19 (m, 3H)

46	{(4-Benzyloxybenzyl)-[4-(2-dibenzylaminoethoxy)be
	nzoyl]amino}acetic acid ethyl ester; <sup>1</sup> H-NMR:
	7.47-7.23 (m, 19H), 6.97 (d, 2H), 6.79 (d, 2H),
	5.08 (s, 2H), 4.71-4.62 (m, 2H), 4.22-3.99 (m,
	1
47	6H), 3.72 (s, 4H), 2.89 (t, 2H), 1.27 (m, 3H)
	3-(5-Benzyloxy-1H-indol-3-yl)-2-[4-(2-dibenzylami
	noethoxy) -benzoylamino] propionic acid methyl
	ester; <sup>1</sup> H-NMR: 8.01 (s, 1H), 7.64 (d, 2H),
	7.41-7.22 (m, 14H), 7.00 (dd, 2H), 6.90 (dd, 1H),
	6.74 (d, 2H), 6.64 (d, 1H), 5.17 (m, 1H), 4.85
	(d, 1H), 4.62 (d, 1H), 3.94 (t, 2H), 3.74 (s,
	3H), 3.70 (s, 4H), 3.45 (dd, 1H), 3.35 (dd, 1H), 2.86 (t, 2H)
48	
	2-[4-(2-Dibenzylaminoethoxy)benzoylamino]-3-(1-me
,	thyl-1H-indol-3-yl)propionic acid methyl ester;
	H-NMR: 7.60 (d, 2H), 7.53 (d, 1H), 7.41-7.21 (m,
	12H), 7.08 (t, 1H), 6.85 (s, 1H), 6.77 (d, 2H),
	6.56 (d, 1H), 5.12 (m, 1H), 4.03 (t, 2H),
49	3.75-3.72 (m, 10H), 3.43 (d, 2H), 2.90 (t, 2H)
	3-(5-Benzyloxy-1H-indol-3-yl)-2-[3-(2-dibenzylami
	noethoxy)benzoylamino]-propionic acid methyl ester; <sup>1</sup> H-NMR: 7.95 (s, 1H), 7.41-7.19 (m, 14H),
	7.04-6.88 (m, 4H), 6.69 (d, 1H), 5.16 (m, 1H),
	4.89 (d, 1H), 4.71 (d, 1H), 3.98 (t, 2H), 3.74
	(s, 3H), 3.69 (s, 4H), 3.45 (dd, 1H), 3.35 (dd,
	1H), 2.86 (t, 2H)
50	{(3-Benzyloxybenzyl)-[4-(3-benzyloxybenzyloxy)ben
	zoyl]amino}acetic acid ethyl ester; <sup>1</sup> H-NMR:
	7 45 7 20 /- 4433 - 4433
	4H), 5.06 (s, 2H), 4.77-4.66 (m, 2H), 4.21 (m,
	2H), 4.11-3.88 (m, 2H), 1.26 (m, 3H)

51	3-1/3-Rengyloushon-1) [4 /2]
	3-{(3-Benzyloxybenzyl)-[4-(3-benzyloxybenzyloxy)b
	enzoyl]amino}propionic acid ethyl ester; H-NMR:
1	7.45-7.26 (m, 14H), 6.96-6.82 (m, 8H), 5.08 (s,
	4H), 5.05 (s, 2H), 4.63 (br s, 2H), 4.12 (m, 2H),
	3.66 (m, 2H), 2.67 (m, 2H), 1.26 (m, 3H)
52	3-{(4-Benzyloxybenzyl)-[4-(3-benzyloxybenzyloxy)b
	enzoyl]amino}propionic acid ethyl ester; <sup>1</sup> H-NMR:
	7.46-7.27 (m, 13H), 7.13-6.93 (m, 9H), 5.08 (s,
ļ	2H), 5.07 (s, 2H), 5.06 (s, 2H), 4.60 (br s, 2H),
	4.13 (m, 2H), 3.65 (m, 2H), 2.67 (m, 2H), 1.27
	(m, 3H)
53	{(4-Benzyloxybenzyl)-[3-(3-benzyloxybenzyloxy)ben
	zoyl]amino}acetic acid ethyl ester; 1H-NMR:
	7.42-7.28 (m, 13H), 7.11-6.95 (m, 9H), 5.07-4.99
	(m, 6H), 4.75-4.53 (m, 2H), 4.23 (q, 2H),
	4.13-3.84 (m, 2H), 1.26 (m, 3H)
54	{(3-Benzyloxybenzyl)-[3-(3-benzyloxybenzyloxy)ben
	zoyl]amino}acetic acid ethyl ester; <sup>1</sup> H-NMR:
	7.46-7.26 (m, 13H), 7.11-6.80 (m, 9H), 5.09-4.94
	(m, 6H), 4.79-4.57 (m, 2H), 4.23 (q, 2H),
	4.14-3.84 (m, 2H), 1.26 (m, 3H)
55	3-{(3-Benzyloxybenzyl)-[3-(3-benzyloxybenzyloxy)b
	enzoyl]amino}propionic acid ethyl ester; <sup>1</sup> H-NMR:
	7.45-7.25 (m, 13H), 7.02-6.90 (m, 7H), 6.78 (m,
	2H), 5.07-4.94 (m, 6H), 4.75-4.52 (m, 2H), 4.15
	(m, 2H), 3.71-3.50 (m, 2H), 2.72-2.39 (m, 2H),
	1.26 (m, 3H)
56	3-[(4-Benzyloxybenzoyl)-(3-benzyloxybenzyl)amino]
	propionic acid ethyl ester; MS: 524
57	3-{(4-Benzyloxybenzyl)-[3-(3-benzyloxybenzyloxy)b
	enzoyl]amino}propionic acid ethyl ester; MS: 631
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58	(2S)-2-[3-(4-Butylbenzyloxy)benzoylamino]-3-cyclo
j	hexylpropionic acid methyl ester; <sup>1</sup> H-NMR: 7.45
	(s, 1H), 7.35 (d, 4H), 7.20 (d, 2H), 7.12 (m,
	1H), 6.47 (d, 1H), 5.06 (s, 2H), 4.87 (m, 1H),
	3.76 (s, 1H), 2.62 (t, 2H), 1.78-0.90 (m, 20H)
59	2-[4-(3-Benzyloxybenzyloxy)benzoylamino]-3-(4-bro
·	mophenyl) propionic acid methyl ester; 1H-NMR:
	7.69 (d, 2H), 7.45-7.20 (m, 8H), 7.06-6.93 (m,
	7H), 6.50 (d, 1H), 5.09-5.03 (m, 5H), 3.77 (s,
	3H), 3.25 (dd, 1H), 3.16 (dd, 1H)
60	2-[4-(3-Benzyloxybenzyloxy)benzoylamino]-3-(4-flu
.•	orophenyl)propionic acid methyl ester; <sup>1</sup> H-NMR:
	7.69 (d, 2H), 7.45-7.20 (m, 6H), 7.11-6.93 (m,
	9H), 6.49 (d, 1H), 5.09-5.02 (m, 5H), 3.76 (s,
	3H), 3.27 (dd, 1H), 3.18 (dd, 1H)
61	3-(4-Benzyloxyphenyl)-2-[4-(2-naphthalen-2-yl-eth
	oxy)benzoylamino]propionic acid methyl ester; MS:
!	560
62	3-{[4-(2-Dibenzylaminoethoxy)benzoyl]-(3-phenoxyb
	enzyl)amino}propionic acid methyl ester; <sup>1</sup> H-NMR:
	7.40-7.23 (m, 16H), 7.13 (t, 1H), 7.01 (d, 2H),
	6.90 (dd, 2H), 6.75 (d, 2H), 4.60 (br s, 2H),
	4.01 (t, 2H), 3.71-3.62 (m, 9H), 2.88 (t, 2H),
<u> </u>	2.67 (m, 2H)
63 .	3-{[3-(2-Dibenzylaminoethoxy)benzoyl]naphthalen-2
	-ylmethylamino}propionic acid methyl ester;
	<sup>1</sup> H-NMR: 7.80 (m, 3H), 7.50-7.47 (m, 2H),
	7.32-7.22 (m, 13H), 7.00 (d, 1H), 6.93 (s, 1H),
	6.84 (d, 1H), 4.93-4.70(m, 2H), 4.03-3.91 (t,
	2H), 3.80-3.55 (m, 9H), 2.81-2.50 (m, 4H)

64	3-{(4-tert-Butylbenzyl)-[3-(2-dibenzylaminoethoxy]
	)benzoyl]amino}propionic acid methyl ester;
	<sup>1</sup> H-NMR: 7.39-7.20 (m, 14H), 7.10 (m, 1H), 6.95
	(d, 1H), 6.91 (s, 1H), 6.85 (d, 1H), 4.72-4.50
	(m, 2H), 3.97 (m, 2H), 3.70-3.55 (m, 9H), 2.86
	(m, 2H), 2.71-2.48 (m, 2H), 1.30 (s, 9H)
65	3-{(4-Bromobenzyl)-[3-(2-dibenzylaminoethoxy)benz
	oyl]amino}propionic acid methyl ester; <sup>1</sup> H-NMR:
	7.47 (d, 2H), 7.39-7.20 (m, 12H), 7.05 (m, 1H),
	6.93 (d, 1H), 6.86-6.80 (m, 2H), 4.68-4.50 (m,
	2H), 3.97 (m, 2H), 3.70-3.55 (m, 9H), 2.87 (m,
	2H), 2.72-2.46 (m, 2H)
66	3-{[3-(2-Dibenzylaminoethoxy)benzoyl]-(3-phenoxyb
	enzyl)amino}propionic acid methyl ester; <sup>1</sup> H-NMR:
	7.45-7.22 (m, 16H), 7.11 (t, 1H), 7.00 (m, 2H),
	6.90-6.84 (m, 4H), 4.72-4.49 (m, 2H), 3.96 (m,
	2H), 3.70-3.60 (m, 9H), 2.87 (m, 2H), 2.72-2.45
	(m, 2H)
67 .	3-{[4-(2-Dibenzylaminoethoxy)benzoyl]-(4-phenoxyb
	enzyl)amino}propionic acid methyl ester; <sup>1</sup> H-NMR:
	7.40-7.14 (m, 17H), 7.02-6.97 (m, 4H), 6.78 (d,
	2H), 4.61 (br s, 2H), 4.01 (t, 2H), 3.71-3.65 (m,
	9H), 2.89 (t, 2H), 2.66 (m, 2H)
68	(2S) -2-[4-(4-Butylbenzyloxy)benzoylamino]-3-pheny
	lpropionic acid methyl ester; MS: 446
69	(2S) -3-(4-Benzyloxyphenyl) -2-[4-(4-butylbenzyloxy
	)benzoylamino]propionic acid methyl ester; MS:
	552
70	(2S) -2-[4-(4-Butylbenzyloxy)benzoylamino]-3-cyclo
	hexylpropionic acid methyl ester; MS: 452
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71	[//2-Pongralowshoners]) [4 /4 hub. 3]
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	{(3-Benzyloxybenzyl)-[4-(4-butylbenzyloxy)benzoyl
· ·	]amino}acetic acid methyl ester; <sup>1</sup> H-NMR:
	7.45-7.18 (m, 12H), 6.93-6.80 (m, 5H), 5.07 (s,
	2H), 5.03 (s, 2H), 4.74-4.65 (m, 2H), 4.11-3.90
	(m, 2H), 3.75 (s, 3H), 2.62 (t, 2H), 1.59 (m,
	2H), 1.35 (m, 2H), 0.92 (t, 3H)
72	{(4-Benzyloxybenzyl)-[4-(4-butylbenzyloxy)benzoyl
	lamino}acetic acid methyl ester; <sup>1</sup> H-NMR:
	7.50-7.12 (m, 13H), 6.95 (d, 4H), 5.07 (s, 2H),
	5.03 (s, 2H), 4.70-4.62 (m, 2H), 4.11-3.92 (m,
1	2H), 3.74 (s, 3H), 2.61 (t, 2H), 1.59 (m, 2H),
	1.35 (m, 2H), 0.92 (t, 3H)
73	3-{(3-Benzyloxybenzyl)-[4-(4-butylbenzyloxy)benzo
	yllamino}propionic acid methyl ester; MS: 566
74	3-{(4-Benzyloxybenzyl)-[4-(4-butylbenzyloxy)benzo
	yl]amino}propionic acid methyl ester; <sup>1</sup> H-NMR:
	7.45-7.13 (m, 13H), 6.95 (d, 4H), 5.06 (s, 2H),
	5.03 (s, 2H), 4.58 (br s, 2H), 3.66-3.60 (m,
	5H), 2.62 (m, 4H), 1.59 (m, 2H), 1.35 (m, 2H),
	0.92 (t, 3H)
75	(2S) -2-[4-(3-Benzyloxybenzyloxy)benzoylamino]-3-c
-	yclohexylpropionic acid methyl ester; <sup>1</sup> H-NMR:
	7.72 (d, 2H), 7.44-7.28 (m, 6H), 7.06-6.92 (m,
	5H), 6.40 (d, 1H), 5.09 (s, 2H), 5.07 (s, 2H),
	4.87 (s, 1H), 3.76 (s, 1H), 1.77-0.95 (m, 13H)
76	(2S)-2-[3-(3-Benzyloxybenzyloxy)benzoylamino]-3-c
	yclohexylpropionic acid methyl ester; 1H-NMR:
	7.44-7.28 (m, 9H), 7.10-6.93 (m, 4H), 6.50 (d,
	1H), 5.08 (s, 4H), 4.87 (s, 1H), 3.76 (s, 1H),
	1.81-0.91 (m, 13H)

77	
	(2S)-3-(4-Benzyloxyphenyl)-2-[3-(4-butylbenzyloxy
	)benzoylamino propionic acid methyl ester; MS:
	552
78	(2S) -2-[3-(4-Benzyloxybenzyloxy)benzoylamino]-3-p
	henylpropionic acid methyl ester; MS: 496
79	(2S)-2-[3-(4-Benzyloxybenzyloxy)benzoylamino]-3-c
	yclohexylpropionic acid methyl ester; MS: 502
80	{(3-Benzyloxybenzyl)-[3-(4-butylbenzyloxy)benzoyl
	]amino}acetic acid methyl ester; <sup>1</sup> H-NMR:
·	7.41-7.16 (m, 12H), 7.10-6.80 (m, 5H), 5.06-4.92
	(m, 4H), 4.78-4.57 (m, 2H), 4.14-3.90 (m, 2H),
	3.77-3.68 (m, 3H), 2.61 (t, 2H), 1.59 (m, 2H),
	1.35 (m, 2H), 0.93 (t, 3H)
81	3-{(3-Benzyloxybenzyl)-[3-(4-butylbenzyloxy)benzo
	yl]amino}propionic acid methyl ester; <sup>1</sup> H-NMR:
	7.41-7.17 (m, 10H), 7.01-6.77 (m, 7H), 5.05-5.04
	(m, 4H), 4.91-4.71 (m, 2H), 4.66-4.48 (m, 2H),
	3.69-3.60 (m, 3H), 2.72 (m, 2H), 2.61 (t, 2H),
	1.59 (m, 2H), 1.35 (m, 2H), 0.93 (t, 3H)
82	(2S) - [3-(4-Benzyloxybenzyloxy)benzoylamino]phenyl
	acetic acid methyl ester; MS: 482
83	(2S)-2-{4-[2-(3-Methylquinoxalin-2-yloxy)ethoxy]b
	enzoylamino}-3-phenylpropionic acid methyl ester;
	MS: 486
84	(2S) - [3-(3-Benzyloxybenzyloxy)benzoylamino]phenyl
	acetic acid methyl ester; MS: 482
85	(2S)-2-[3-(3-Benzyloxybenzyloxy)benzoylamino]-3-p
	henylpropionic acid methyl ester; MS: 496

86	{ (3-Benzyloxybenzyl) - [3-(4-benzyloxybenzyloxy)ben
	zoyl]amino}acetic acid methyl ester; <sup>1</sup> H-NMR:
	7.45-7.25 (m, 14H), 7.10-6.75 (m, 8H), 5.08-4.89
	(m, 6H), 4.78-4.57 (m, 2H), 4.14-3.85 (m, 2H),
	3.77-3.68 (m, 3H)
87	3-{(3-Benzyloxybenzyl)-[3-(4-benzyloxybenzyloxy)b
	enzoyl]amino}propionic acid methyl ester; 1H-NMR:
	7.45-7.24 (m, 14H), 7.00-6.77 (m, 8H), 5.08-4.88
	(m, 6H), 4.71-4.51 (m, 2H), 3.69-3.50 (m, 5H),
	2.72-2.39 (m, 2H)
88	(2S) - [4-(4-Butylbenzyloxy) benzoylamino] phenylacet
	ic acid methyl ester; MS: 432
89	(2S)-3-(4-Benzyloxyphenyl)-2-[4-(2-pyridin-2-yl-e
	thoxy)benzoylamino propionic acid methyl ester;
	MS: 511
90	{[4-(3-Benzyloxybenzyloxy)benzoyl]-(4-benzyloxyph
•	enyl)amino}acetic acid ethyl ester; MS: 602
91	{[4-(3-Benzyloxybenzyloxy)benzoyl]-(3-benzyloxyph
	enyl)amino}acetic acid ethyl ester; MS: 602
	3-(4-Benzyloxyphenyl)-2-{3-
	[(benzylphenethylcarbamoyl)methoxy]benzoylamino}p
	ropionic acid methyl ester; <sup>1</sup> H-NMR: 7.41-7.23 (m,
	16H), 7.16-7.05 (m, 5H), 6.98-6.98 (m, 2H),
	6.60-6.55 (m,14H), 5.06-4.93 (m, 3H), 4.70 (d,
	1H), 4.43 (d, 1H), 3.76 (s, 3H), 3.64-3.40 (m,
92	2H), 3.26-3.11 (m, 2H), 2.85 (t, 2H); MS: 657
	{3-[(Benzylphenylcarbamoyl)methoxybenzoylamino}th
	iophen-3-ylacetic acid methyl ester; <sup>1</sup> H-NMR:
	7.40-7.31 (m, 5H), 7.29-7.15 (m, 6H), 7.15-7.09
•	(m, 1H), 7.09-6.95 (m, 4H), 5.88 (d, 1H),5.30 (s,
	1H), 4.90 (s, 2H), 4.43 (s, 2H), 3.80 (s, 3H);
93	MS: 515

The compounds of formula (Iaa), (Iab) and (Iae) shown in Table 13 were synthesized according to any of methods D to F, starting from intermediate (VIII) and the corresponding alcohols, thiols or amines:

TABLE 13

Ex.	
94	$(2S)$ -3- $(4$ -Benzyloxyphenyl) -2- $\{4$ - $[2$ - $(3$ -bromophenox
	y)ethoxy]-benzoylamino}propionic acid methyl
	ester; <sup>1</sup> H-NMR: 7.72 (d, 2H), 7.42-6.88 (m, 15H),
	6.51 (d, 1H), 5.10-5.03 (m, 3H), 4.33 (s, 4H),
	3.77 (s, 3H), 3.29-3.11 (m, 2H)
95	(2S) -3-(4-Benzyloxyphenyl) -2-{4-[2-(3-methylquino
	xalin-2-yloxy)ethoxy]benzoylamino}propionic acid
	methyl ester; <sup>1</sup> H-NMR: 7.99-6.87 (m, 17H), 6.54
	(d, 1H), 5.10-5.02 (m, 3H), 4.88 (t, 2H), 4.47
	(t, 2H), 3.77 (s, 3H), 3.29-3.11 (m, 2H), 2.64
	(s, 3H)
96	(2S)-3-(4-Benzyloxyphenyl)-2-{3-[2-(2,6-dimethylp
	henoxy)ethoxy]-benzoylamino}propionic acid methyl
	ester; <sup>1</sup> H-NMR: 7.44-7.36 (m, 9H), 7.14-6.90 (m,
	7H), 6.57 (d, 1H), 5.07-5.03 (m, 3H), 4.36-4.33
	(m, 2H), 4.18-4.15 (m, 2H), 3.78 (s, 3H),
· .	3.26-3.10 (m, 2H), 2.32 (s, 6H)
97	$(2S)$ -3- $(4$ -Benzyloxyphenyl) -2- $\{4$ - $[2$ - $(pyridin-2-ylo)$
	xy) ethoxy] -benzoylamino}propionic acid methyl
	ester; MS: 527
98	(2S)-3-(4-Benzyloxyphenyl)-2-{4-[2-(quinolin-8-yl
	oxy)ethoxy]-benzoylamino}propionic acid methyl
	ester; MS: 577

99	(2S)-3-(4-Benzyloxyphenyl)-2-{4-[2-(4-imidazol-1-
<i>J</i> 9	yl-phenoxy) ethoxy] benzoylamino propionic acid
	methyl ester; MS: 592
100	$(2S)$ -3- $(4$ -Benzyloxyphenyl) -2- $\{4$ - $[2$ - $(2$ -methylbenzo
	thiazol-5-yloxy)ethoxy]benzoylamino}propionic
	acid methyl ester; MS: 597
101	(2S)-3-(4-Benzyloxyphenyl)-2-{4-[2-(5,6,7,8-tetra
	hydronaphthalen-2-
	yloxy)ethoxy]benzoylamino}propionic acid methyl
	ester; MS: 580
102	(2S)-3-(4-Benzyloxyphenyl)-2-{4-[2-(quinolin-7-yl
	oxy)ethoxy]-benzoylamino}propionic acid methyl
	ester; MS: 577
103	(2S)-3-(4-Benzyloxyphenyl)-2-{4-[2-(quinolin-2-
·	yloxy)ethoxy]-benzoylamino}propionic acid methyl
	ester; MS: 577
104	(2S)-3-(4-Benzyloxyphenyl)-2-{4-[3-(3-methylquino
	xalin-2-yloxy)propoxy]benzoylamino}propionic acid
	methyl ester; MS: 606
105	(2S)-3-(4-Benzyloxyphenyl)-2-{4-[2-(1-methyl-1H-i
	midazol-2-
	ylsulfanyl)ethoxy]benzoylamino}propionic acid;
	MS: 532
106	(2S) -3-(4-Benzyloxyphenyl) -2-{4-[2-(2-fluoropheny
100	lsulfanyl)ethoxy]-benzoylamino}propionic acid
	methyl ester; <sup>1</sup> H-NMR: 7.66 (d, 2H), 7.50-7.25 (m,
	7H), 7.25-7.08 (m, 2H), 7.03 (d, 2H), 6.90 (d,
	2H), 6.86 (d, 2H), 6.45 (d, 1H), 5.08-6.98 (m,
	3H), 4.17 (t, 2H), 3.76 (s, 3H), 3.28 (t, 2H),
	3.25-3.10 (m, 2H); MS: 560

107	1/26) 2 14 10 14 2
107	(2S)-2-{4-[2-(4-Bromophenylsulfanyl)ethoxy]benzoy
	lamino}-3-cyclohexylpropionic acid methyl ester;
	H-NMR: 7.74 (d, 2H), 7.43 (d, 2H), 7.28 (d, 2H),
	6.87 (d, 2H), 6.39 (d, 1H), 4.95-4.80 (m, 1H),
1	4.17 (t, 2H), 3.76 (s, 3H), 3.28 (t, 2H),
	1.90-1.50 (m, 5H), 1.50-1.20 (m, 5H), 1.20-0.85
	(m, 3H); MS: 521
108	$(2S)$ -3-Cyclohexyl-2- $\{4-[2-(2-methoxyphenylsulfany\}]$
	l)ethoxy]-benzoylamino}propionic acid methyl
	ester; <sup>1</sup> H-NMR: 7.73 (d, 2H), 7.38 (d, 1H),
	7.30-7.20 (m, 1H), 7.00-6.83 (m, 4H), 6.39 (d,
	1H), 4.95-4.80 (m, 1H), 4.17 (t, 2H), 3.89 (s,
	3H), 3.76 (s, 3H), 3.28 (t, 2H), 1.90-1.50 (m,
	5H), 1.50-1.20 (m, 5H), 1.20-0.85 (m, 3H);
	MS: 472
109	(2S) -3-(4-Benzyloxyphenyl) -2-{4-[2-(2-methoxyphen
	oxy)ethoxy]-benzoylamino}propionic acid methyl
·	ester; <sup>1</sup> H-NMR: 7.70 (d, 2H), 7.48-7.30 (m, 4H),
	7.20 (t, 1H), 7.04 (d, 2H), 6.97 (d, 2H), 6.90
	(d, 2H), 6.60-6.50 (m, 4H), 6.48 (d, 1H),
	5.10-5.00 (m, 3H), 4.40-4.28 (m, 4H), 3.79 (s,
	3H), 3.76 (s, 3H), 3.26-3.12 (m, 2H); MS: 556
110	(2S) -2-[4-(2-N-benzylaminoethoxy)benzoylamino]-3-
·	(4-benzyloxyphenyl)propionic acid methyl ester;
	<sup>1</sup> H-NMR: 7.68 (d, 2H), 7.41-7.30 (m, 10H), 7.05
	(d, 2H), 6.90 (d, 4H), 6.51 (d, 1H), 5.10-5.00
.	(m, 3H), 4.14 (t, 2H), 3.90 (s, 2H), 3.76 (s,
·	3H), 3.19 (m, 2H) 3.06 (t, 2H)
	.,,, 5.00 (0, 211)

The compounds of formula (Iaa) y (Iab) shown in Table 14 were synthesized according to methods A or C, starting from intermediate (Xb) or (XIb):

TABLE 14

Ex.	
111	((4-Benzyloxybenzyl)-{4-[2-(3-methylquinoxalin-2-
	yloxy)ethoxy]benzoyl}amino)acetic acid ethyl
	ester; <sup>1</sup> H-NMR: 7.94 (d, 1H), 7.80 (d, 1H),
	7.63-7.52 (m, 4H), 7.46-7.31 (m, 6H), 7.14 (d,
	1H), 7.00-6.96 (m, 4H), 5.07 (s, 2H), 4.86 (t,
	2H), 4.73-4.62 (m, 2H), 4.44 (t, 2H), 4.30-4.18
	(m, 2H), 4.11-3.89 (m, 2H), 2.64 (s, 3H), 1.26 (m,
	3Н)
112	(2S) -3-(4-Benzyloxyphenyl) -2-{3-[2-(3-methylquinox
	alin-2-yloxy)ethoxy]benzoylamino}propionic acid
	methyl ester; 1H-NMR: 7.94 (dd, 1H), 7.81 (d, 1H),
	7.60-7.52 (m, 2H), 7.43-7.25 (m, 8H), 7.13 (dd,
	1H), 7.04 (d, 2H), 6.90 (d, 2H), 6.57 (d, 1H),
•	5.08-5.03 (m, 3H), 4.87 (t, 2H), 4.48 (t, 2H),
	3.77 (s, 3H), 3.28-3.14 (m, 2H), 2.64 (s, 3H)
113	3-((3-Benzyloxybenzyl)-{3-[2-(3-methylquinoxalin-2]
	-yloxy)ethoxy]benzoyl}amino)propionic acid ethyl
	ester; <sup>1</sup> H-NMR: 7.95 (d, 1H), 7.79 (d, 1H),
	7.64-7.52 (m, 2H), 7.41-7.25 (m, 8H), 7.03-6.78
	(m, 5H), 5.04 (s, 2H), 4.81 (m, 2H), 4.55-4.00 (m,
	6H), 3.72 (m, 2H), 2.72-2.63 (m, 5H), 1.27 (m, 3H)
114	((3-Benzyloxybenzyl)-{4-[2-(3-methylquinoxalin-2-
	yloxy)ethoxy]benzoyl}amino)acetic acid ethyl
	ester; <sup>1</sup> H-NMR: 7.94 (d, 1H), 7.80 (d, 1H),
	7.61-7.29 (m, 10H), 6.97-6.82 (m, 5H), 5.08 (s,
	2H), 4.86 (t, 2H), 4.78-4.66 (m, 2H), 4.44 (t,
	2H), 4.30-4.18 (m, 2H), 4.12-3.89 (m, 2H), 2.64
	(s, 3H), 1.28 (m, 3H)

115	3-((3-Benzyloxybenzyl)-{4-[2-(3-methylquinoxalin-2]
	-yloxy)ethoxy]benzoyl}amino)propionic acid ethyl
:	ester; <sup>1</sup> H-NMR: 7.94 (d, 1H), 7.80 (d, 1H),
	7.64-7.52 (m, 2H), 7.45-7.24 (m, 8H), 6.97-6.78
	(m, 5H), 5.07 (s, 2H), 4.86 (t, 2H), 4.62 (br s,
	2H), 4.43 (t, 2H), 4.20-4.05 (m, 2H), 3.67 (m,
	2H), 2.75-2.64 (s, 5H), 1.25 (m, 3H)
116	((3-Benzyloxybenzyl)-{3-[2-(3-methylquinoxalin-2-
116	
	yloxy)ethoxy]benzoyl}amino)acetic acid ethyl
	ester; <sup>1</sup> H-NMR: 7.94 (d, 1H), 7.81 (d, 1H),
	7.65-7.50 (m, 2H), 7.43-7.25 (m, 8H), 7.12-6.80
	(m, 5H), 5.05 (m, 2H), 4.86-4.79 (m, 2H),
	4.60-4.53 (m, 2H), 4.44-4.30 (m, 2H), 4.24-4.15
	(m, 2H), 4.14-3.85 (m, 2H), 2.63 (s, 3H),
	1.32-1.20 (m, 3H)
117	$(2S)$ -3- $(4$ -Bromophenyl) -2- $\{4$ - $[2$ - $(3$ -methylquinoxalin
	-2-yloxy)ethoxy]benzoylamino}propionic acid methyl
	ester; <sup>1</sup> H-NMR: 7.94 (dd, 1H), 7.81 (d, 1H), 7.72
	(d, 2H), 7.60-7.52 (m, 2H), 7.40 (d, 2H),
	7.02-6.98 (m, 4H), 6.52 (d, 1H), 5.06 (m, 1H),
	4.88 (t, 2H), 4.47 (t, 2H), 3.77 (s, 3H), 3.26
	(dd, 1H), 3.17 (dd, 1H), 2.64 (s, 3H)
118	(2S)-3-(4-Fluorophenyl)-2-{4-[2-(3-methylquinoxali
	n-2-yloxy) ethoxy] benzoylamino} propionic acid
	methyl ester; <sup>1</sup> H-NMR: 7.92 (d, 1H), 7.80 (d, 1H),
	7.72 (d, 2H), 7.65-7.52 (m, 2H), 7.11-6.94 (m,
	6H), 6.51 (d, 1H), 5.06 (m, 1H), 4.88 (t, 2H),
	4.47 (t, 2H), 3.77 (s, 3H), 3.27 (dd, 1H), 3.18
	(dd, 1H), 2.64 (s, 3H)
<u> </u>	

119	(29) -3'-Ciral charmal 2 (4 52 /2 )
1 + 1 2	(2S)-3-Cyclohexyl-2-{4-[2-(3-methylquinoxalin-2-
	yloxy)ethoxy]benzoylamino}propionic acid methyl
	ester; <sup>1</sup> H-NMR: 7.94 (d, 1H), 7.81-7.77 (m, 3H),
	7.64-7.51 (m, 2H), 7.02 (d, 2H), 6.44 (d, 1H),
	4.90-4.83 (m, 3H), 4.47 (t, 2H), 3.76 (s, 3H),
	2.64 (s, 3H), 1.90-0.95 (m, 13H)
120	$(2s)$ -3-Cyclohexyl-2- ${3-[2-(3-methylquinoxalin-2-$
	yloxy)ethoxy]benzoylamino}propionic acid methyl
	ester;
	H-NMR: 7.93 (d, 1H), 7.80 (d, 1H), 7.64-7.51 (m,
}	2H), 7.46 (s, 1H), 7.36 (d, 2H), 7.12 (m, 1H),
	6.54 (d, 1H), 4.90-4.83 (m, 3H), 4.47 (t, 2H),
	3.76 (s, 3H), 2.63 (s, 3H), 1.90-0.95 (m, 13H)
121	{Thiophen-3-ylmethyl-
	{3-[2-(thiophen-2-ylsulfanyl)ethoxy]benzoyl}amino}
	acetic acid methyl ester; <sup>1</sup> H-NMR: 7.40-7.25 (m,
	4H), 7.25-7.05 (m, 2H), 7.05-6.85 (m, 2H),
	7.78-4.55 (m, 2H), 4.20-4.04 (m, 4H), 3.78-3.65
	(m, 2H), 3.15-3.05 (m, 2H); MS: 448
122	{Thiophen-2-yl{3-[2-(thiophen-2-ylsulfanyl)ethoxy]
•	benzoyl}amino}acetic acid methyl ester; 1H-NMR:
	7.40-7.25 (m, 4H), 7.25-7.05 (m, 2H), 7.05-6.90
	(m, 2H), 6.05 (d, 1H), 4.17 (t, 2H), 4.00-3.54 (m,
	4H), 3.14 (t, 2H); MS: 434
123	(2S) -3-(4-Benzyloxyphenyl)-2-{3-[2-(3-methyl-2-oxo
	-2H-quinoxalin-1-yl) ethoxyl benzoylamino propionic
	acid methyl ester; MS: 592.
124	(2S)-3-((4-Benzyloxybenzyl)-{3-[2-(3-methyl-2-oxo-
1	
4	2H-quinoxalin-1-yl)ethoxy]benzoyl}amino)propionic acid methyl ester; MS: 606
	dera meenyr ester; MS: 606

The compounds of formula (Ia) shown in Table 16 were synthesized according to methods N or P, starting from compounds of formula (Ib)

#### METHOD N:

To a solution of 1 eq of the compound of formula (Ib), 1.3 eq of HOBT and 1.3 eq of EDC in tetrahydrofurane, the solution being 0.2 M in the compound of formula (Ib), 2 eq of triethylamine and 5 eq of the corresponding alcohol were added. The reaction mixture was stirred at room temperature for 18h, and then water and dichloromethane were added. The organic layer was separated, and the aquous layer was extracted once with dichloromethane. The organic layers were combined, dried over anhydrous sodium sulfate, and filtered. The solvent was distilled off under reduced pressure.

### METHOD P:

1 Eq of the compound of formula (Ib) was dissolved in the corresponding alcohol, and 2 drops of  $\rm H_2SO_4$  conc. were added. The solution was stirred over night at room temperature, and the solvent was distilled off at reduced pressure.

TABLE 15

Ex.	
125	(2S)-3-(4-Benzyloxyphenyl)-2-{4-[2-(3-methylquinox
	alin-2-yloxy) ethoxy] benzoylamino} propionic acid
	ethyl ester; <sup>1</sup> H-NMR: 7.95 (d, 1H), 7.82 (d, 1H),
	7.73 (d, 2H), 7.65-7.52 (m, 2H), 7.45-7.30 (m,
	5H), 7.05 (d, 2H), 7.00 (d, 2H), 6.89 (d, 2H),
	6.52 (d, 1H), 5.03 (m, 3H), 4.88 (t, 2H), 4.47 (t,
	2H), 4.22 (q, 2H), 3.20 (m, 2H), 2.65 (s, 3H),
	1.29 (t, 3H)
126	$(2S)$ -3- $(4$ -Benzyloxyphenyl) -2- $\{4$ - $[2$ - $(3$ -methylquinox)
	alin-2-yloxy)ethoxy]benzoylamino}propionic acid
	isopropyl ester; MS: 620
127	(2S)-3-(4-Benzyloxyphenyl)-2-{4-[2-(3-methylquinox
•	alin-2-yloxy)ethoxy]benzoylamino}propionic acid
	propyl ester; MS: 620

### EXEMPLE (1b):

## METHOD Q:

To a solution 0.1 M of 1 eq of the corresponding acid chloride in tetrahydrofurane or dioxane, an aqueous solution of 1 eq of the aminoacidic derivative, and 2 eq of sodium hydroxide was added. The resulting mixture was stirred for 18h at room temperature. Then, HCl 1 N was added dropwise until pH acid was reached, and the solution was extracted twice with ethyl acetate. The combined organic layers were dried over anhydrous sodium sulfate, and filtered. The solvent was distilled off under reduced pressure, and the obtained residue was purified by column chromatography.

#### METHOD R:

To a mixture of 1 eg of acid of formula (II), 1.3 eg of HOBT and 1.3 eq of EDC, tetrahydrofurane or dioxane were added, and the resulting solution (0.2 M in the acid of formula (II)) was stirred during 2h at room temperature. Then, an aquous solution of 1 eq of the aminoacidic derivative, and 2 eq of sodium hydroxide was added. The solution was stirred over night at room temperature. Then, HCl 1 N was added dropwise until pH acid was reached, and the solution was extracted twice with ethyl acetate. The combined organic dried over anhydrous sodium sulfate, layers were solvent was distilled off under reduced filtered. The pressure, and the obtained residue was purified by column chromatography.

The compounds of formula (Ib) shown in Table 16 were synthesized according to methods Q or R, starting from intermediates (VIb):

TABLE 16

Ex.	
128	$(2S) -3 - (4-Benzyloxyphenyl) -2 - \{4-[2-(5-methyl-2-phe]] $
	nyloxazol-4-yl)ethoxy]benzoylamino}propionic acid;
	<sup>1</sup> H-NMR: 7.90-6.80 (m, 18H), 5.00 (s, 2H), 4.45 (m,
	1H), 4.26 (m, 2H), 3.40 (m, 2H), 2.95 (m, 2H),
	2.35 (s, 3H)
129	(2S)-2-(4-Benzyloxybenzoylamino)-3-(4-benzyloxyphe
	nyl)propionic acid; <sup>1</sup> H-NMR: 7.66 (d, 2H),
	7.37-7.31 (m, 10H), 7.08 (d, 2H); 6.95 (d, 2H),
	6.86 (d, 2H), 5.07 (s, 2H), 4.99 (s, 2H), 4.93 (t,
	1H), 3.23-3.15 (m, 2H)
130	(2S)-3-(4-Benzyloxyphenyl)-2-[4-(2-dibenzylaminoet
	hoxy)benzoylamino]propionic acid; <sup>1</sup> H-NMR:
	8.00-6.75 (m, 24H), 4.88 (m, 3H), 4.15 (t, 2H),
	3.98 (s, 4H), 3.35-3.14 (m, 2H), 3.08 (t, 2H)
131	(2R)-2-[4-(2-Dibenzylaminoethoxy)benzoylamino]-3-(
	1H-indol-3-yl)propionic acid; <sup>1</sup> H-NMR: 7.72-6.74
	(m, 20H), 4.80 (m, 1H), 4.02 (t, 2H), 3.72 (s,
	4H), 3.55-3.25 (m, 2H), 2.89 (t, 2H)
132	3-(4-tert-Butylphenyl)-2-[4-(2-dibenzylaminoethoxy
	)benzoylamino]propionic acid; <sup>1</sup> H-NMR: 7.62 (d,
	2H), 7.50-7.11 (m, 14H), 6.83 (d,1H), 6.76 (d,
	2H), 4.91 (m, 1H), 4.10 (t, 2H), 3.94 (s, 4H),
	3.38-3.16 (m, 2H), 3.05 (t, 2H), 1.20 (s, 9H)
133	3-(4-Bromophenyl)-2-[4-(2-dibenzylaminoethoxy)benz
	oylamino]propionic acid; <sup>1</sup> H-NMR: 7.62 (d, 2H),
	7.43-7.24 (m, 12H), 7.04 (d, 2H), 6.85 (d,1H),
	6.77 (d, 2H), 4.86 (m, 1H), 4.12 (t, 2H), 3.98 (s,
	4H), 3.36-3.13 (m, 2H), 3.07 (t, 2H)

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134	3-Biphenyl-2-yl-2-[4-(2-dibenzylaminoethoxy)benzoy
	lamino]propionic acid; H-NMR: 7.46-7.17 (m, 21H),
	6.72 (d, 2H), 6.36 (d, 1H), 4.66 (m, 1H), 4.07 (t,
	2H), 3.84 (s, 4H), 3.44-3.09 (m, 2H), 2.98 (t, 2H)
136	3-Biphenyl-4-yl-2-[4-(2-dibenzylaminoethoxy)benzoy
	lamino]propionic acid; <sup>1</sup> H-NMR: 7.63 (d, 2H),
	7.45-7.22 (m, 19H), 6.93 (d, 1H), 6.74 (d, 2H),
	4.95 (m, 1H), 4.08 (t, 2H), 3.93 (s, 4H),
	3.44-3.23 (m, 2H), 3.03 (t, 2H)
137	3-(4-tert-Butylphenyl)-2-[3-(2-dibenzylaminoethoxy
ļ	) benzoylamino] propionic acid; <sup>1</sup> H-NMR: 7.45-6.82
	(m, 19H), 4.90 (m, 1H), 4.19 (t, 2H), 3.96 (s,
	4H), 3.36-3.02 (m, 4H), 1.16 (s, 9H)
138	3-(4-Bromophenyl)-2-[3-(2-dibenzylaminoethoxy)benz
	oylamino]propionic acid; <sup>1</sup> H-NMR: 7.52-6.85 (m,
	19H), 4.98 (m, 1H), 4.20 (t, 2H), 3.99 (s, 4H),
	3.51-3.03 (m, 4H)
139	3-(3-Bromophenyl)-2-[3-(2-dibenzylaminoethoxy)benz
	oylamino]propionic acid; <sup>1</sup> H-NMR: 7.60-6.88 (m,
·	19H), 4.83 (m, 1H), 4.29 (t, 2H), 4.11 (s, 4H),
	3.32-3.05 (m, 4H)
140	3-Biphenyl-2-yl-2-[3-(2-dibenzylaminoethoxy)benzoy
	lamino]propionic acid; <sup>1</sup> H-NMR: 7.50-6.88 (m, 24H),
	4.93 (m, 1H), 4.29 (m, 2H), 4.13 (s, 4H),
	3.40-3.20 (m, 4H)
141	2-[4-(2-Dibenzylaminoethoxy)benzoylamino]-3-(3-phe
	noxyphenyl)propionic acid; <sup>1</sup> H-NMR: 8.06-6.74 (m,
	24H), 4.90 (m, 1H), 4.10 (t, 2H), 3.89 (s, 2H),
	3.76 (s, 2H), 3.40-2.92 (m, 4H)

142	3-(5-Bromo-1H-indol-3-yl)-2-[4-(2-dibenzylaminoeth
	oxy)benzoylamino]propionic acid; <sup>1</sup> H-NMR: 7.81-7.20
}	(m, 17H), 6.90 (d, 2H), 4.94 (m, 1H), 4.17 (t,
	2H), 3.97 (s, 4H), 3.58-3.31 (m, 2H), 3.11 (t, 2H)
143	2-[3-(2-Dibenzylaminoethoxy)benzoylamino]-3-(3-phe
	noxyphenyl)propionic acid; <sup>1</sup> H-NMR: 7.44-6.88 (m,
	24H), 4.87 (m, 1H), 4.16 (t, 2H), 3.94 (s, 4H),
	3.34-3.03 (m, 4H)
144	3-(5-Bromo-1H-indol-3-yl)-2-[3-(2-dibenzylaminoeth
	oxy)benzoylamino]propionic acid; <sup>1</sup> H-NMR: 7.79-7.20
	(m, 19H), 4.96 (m, 1H), 4.23 (m, 6H), 3.52-3.24
	(m, 4H)
145	(2S) -2-[3-(3-Benzyloxybenzyloxy)benzoylamino]-3-(4
	-benzyloxyphenyl)propionic acid; <sup>1</sup> H-NMR: 7.45-7.21
	(m,14H), 7.13-7.07 (m, 4H), 7.01 (d, 1H),
	6.96-6.89 (m, 3H), 6.58 (d, 1H), 5.06-4.99 (m,
	7H), 3.31 (dd, 1H), 3.21 (dd, 1H)

The compounds of formula (Ib) shown in Table 17 were synthesized according to methods J or K, starting from compounds of formula (Ia):

TABLE 17

Ex.	
146	{[4-(2-Dibenzylaminoethoxy)benzoyl]-(3-phenoxybenz
	yl)amino}acetic acid; <sup>1</sup> H-NMR: 7.66-6.88 (m, 23H),
	4.81-4.68 (m, 2H), 4.57 (s, 4H), 4.40 (m, 2H),
	4.18-4.00 (m, 2H), 3.63 (m, 2H)
147	(2S) -3-(4-Benzyloxyphenyl) -2-[4-(3-phenylallyloxy)
	benzoylamino]propionic acid; <sup>1</sup> H-NMR: 7.66 (d, 2H),
	7.40-6.84 (m, 17H), 6.71 (d, 1H), 6.36 (dt, 1H),
	4.98 (s, 2H), 4.92 (t, 1H), 4.70 (d, 2H),
	3.30-3.08 (m, 2H)
148	(2S) -3- $(4$ -Benzyloxyphenyl) -2- $[4$ - $(4$ -phenoxybenzylox
	y) benzoylamino] propionic acid; <sup>1</sup> H-NMR: 7.62 (d,
	2H), 7.34-6.79 (m, 20H), 4.99 (s, 2H), 4.94 (s,
	2H), 4.84 (t, 1H), 3.25-3.02 (m, 2H)
149	(2S) -3-(4-Benzyloxyphenyl) -2-[4-(biphenyl-4-ylmeth
	oxy) benzoylamino] propionic acid; <sup>1</sup> H-NMR: 7.82-6.91
	(m, 22H), 5.28 (s, 2H), 5.02 (s, 2H), 4.75 (t,
	1H), 3.40-3.10 (m, 2H)
150	(2S) -3-(4-Benzyloxyphenyl) -2-[4-(3-phenoxybenzylox
	y) benzoylamino] propionic acid; <sup>1</sup> H-NMR: 7.61 (d,
	2H), 7.36-6.77 (m, 20H), 4.97 (s, 2H), 4.91 (s,
	2H), 4.76 (t, 1H), 3.25-3.02 (m, 2H)
151	(2S) -2-[4-(3-Benzyloxybenzyloxy)benzoylamino]-3-(4
	-benzyloxyphenyl)propionic acid; <sup>1</sup> H-NMR: 7.61 (d,
	2H), 7.34-6.77 (m, 20H), 5.00 (s, 2H), 4.97 (s,
	2H), 4.91 (s, 2H), 4.77 (m, 1H), 3.25-3.04 (m, 2H)

152	(2S)-3-(4-Benzyloxyphenyl)-2-(4-phenethyloxybenzoy
	lamino)propionic acid; <sup>1</sup> H-NMR:,63 (d, 2H),
	7.39-7.24 (m, 10H), 7.19 (d, 2H), 6.92-6.86 (m,
	4H), 6.47 (d, 1H), 5.01-4.92 (m, 3H), 4.19 (t,
	2H), 3.26-3.07 (m, 4H)
153	(2S) -3-(4-Benzyloxyphenyl) -2-[4-(3-phenylpropoxy)b
	enzoylamino]propionic acid; <sup>1</sup> H-NMR: 7.66 (d, 2H),
	7.39-7.18 (m, 10H), 7.10 (d, 2H), 6.89-6.86 (m,
	4H), 5.00 (s, 2H), 4.94 (t, 1H), 4.97 (t, 2H),
	3.30=3.13 (m, 2H), 2.80 (t, 2H), 2.10 (m, 2H)
154	
154	{ (4-Benzyloxybenzyl) - [4-(2-dibenzylaminoethoxy) ben
	zoyl]amino}acetic acid;
	23H), 4.90-4.50 (m, 4H), 3.90-3.60 (m, 8H), 2.74
	(m, 2H)
155	{(3-Benzyloxybenzyl)-[3-(2-dibenzylaminoethoxy)ben
	zoyl]amino}acetic acid;
	23H), 5.04-5.01 (m, 2H), 4.76-3.68 (m, 10H),
	3.40-3.20 (m, 2H)
156	{ [3-(2-Dibenzylaminoethoxy) benzoyl] - (3-phenoxybenz
	$yl)$ amino $acetic$ acid; $^1H-NMR: 7.58-6.88$ (m, 23H),
<u> </u>	4.79-3.71 (m, 10H), 3.32-3.17 (m, 2H)
157	{[3-(2-Dibenzylaminoethoxy)benzoyl]-(4-phenoxybenz
	yl)amino}acetic acid; <sup>1</sup> H-NMR: 7.61-6.94 (m, 23H),
	4.80-3.71 (m, 10H), 3.35-3.15 (m, 2H)
158	{(4-tert-Butylbenzyl)-[3-(2-dibenzylaminoethoxy)be
	nzoyl]amino}acetic acid; 7.65-6.92 (m, 18H),
	4.78-3.38 (m, 12H), 1.35-1.20 (m, 9H)
159	{[3-(2-Dibenzylaminoethoxy)benzoyl]-(3-benzyloxybe
	nzyl)amino}acetic acid; <sup>1</sup> H-NMR: 7.60-6.76 (m,
	23H), 5.03-4.99 (m, 2H), 4.74-3.15 (m, 12H)

•	
160	$(2S)$ -3- $(4$ -Benzyloxyphenyl) -2- $\{4$ - $[2$ - $(3$ -methylquinox
	alin-2-yloxy)ethoxy]benzoylamino}propionic acid;
	<sup>1</sup> H-NMR: 7.99-6.86 (m, 17H), 6.57 (d, 1H), 4.99 (m,
	3H), 4.86 (t, 2H), 4.44 (t, 2H), 3.39-3.12 (m,
	2H), 2.63 (s, 3H)
161	(2S)-3-(4-Benzyloxyphenyl)-2-{4-[2-(3-
	bromophenoxy)ethoxy]benzoylamino}propionic acid;
	<sup>1</sup> H-NMR: 7.62 (d, 2H), 7.33-6.79 (m, 15H), 4.95 (s,
	2H), 4.83 (t, 1H), 4.26 (s, 4H), 3.25-3.02 (m, 2H)
162	3-{(3-Benzyloxybenzyl)-[4-(2-dibenzylaminoethoxy)b
	enzoyl]amino}propionic acid; MS: 629
163	3-{(3-Benzyloxybenzyl)-[3-(2-dibenzylaminoethoxy)b
	enzoyl]amino}propionic acid; H-NMR: 7.52-7.16 (m,
	17H), 7.05-6.62 (m, 6H), 5.03 (s, 2H), 4.75-4.51
	(m, 2H), 4.07-3.85 (m, 2H), 3.75-3.66 (m, 6H),
_	3.14-2.83 (m, 2H), 2.78-2.33 (m, 2H)
164	3-{(4-Benzyloxybenzyl)-[3-(2-dibenzylaminoethoxy)b
	enzoyl]amino}propionic acid; <sup>1</sup> H-NMR: 7.38-7.15 (m,
	17H), 7.06-6.71 (m, 6H), 4.95 (s, 2H), 4.66-4.38
	(m, 2H), 4.10-3.92 (m, 2H), 3.81-3.44 (m, 6H),
į	2.95-2.73 (m, 2H), 2.54-2.40 (m, 2H)
165	2-[4-(2-Dibenzylaminoethoxy)benzoylamino]-3-(1-met
	hyl-1H-indol-3-yl)propionic acid; <sup>1</sup> H-NMR:
	7.50-7.47 (m, 3H), 7.38-7.24 (m, 9H), 7.09-6.83
	(m, 5H), 6.53 (d, 2H), 4.93 (m, 1H), 3.83-3.72 (m,
	6H), 3.39 (m, 5H), 2.83 (m, 2H)
166	3-(5-Benzyloxy-1H-indol-3-yl)-2-[4-(2-
	dibenzylaminoethoxy)benzoylamino]propionic acid;
	<sup>1</sup> H-NMR: 7.40-7.19 (m, 15H), 6.97 (m, 3H),
	6.80-6.72 (m, 2H), 6.40 (m, 2H), 4.92 (m, 1H),
	4.69 (d, 1H), 4.46 (d, 1H), 3.68 (m, 6H), 3.26 (m,
	2H), 2.76 (m, 2H)
1	

1.00	
167	3-(5-Benzyloxy-1H-indol-3-yl)-2-[3-(2-
	dibenzylaminoethoxy) benzoylamino] propionic acid;
	<sup>1</sup> H-NMR: 7.27-7.05 (m, 15H), 6.92-6.85 (m, 4H),
	6.72-6.50 (m, 4H), 4.82 (m, 1H), 4.64 (d, 1H),
	4.43 (d, 1H), 3.67 (m, 2H), 3.56 (s, 4H), 3.20 (m,
	2H), 2.66 (m, 2H)
168	{(4-Benzyloxybenzyl)-{4-[2-(3-methylquinoxalin-2-
	yloxy) ethoxy] benzoyl}amino}acetic acid; <sup>1</sup> H-NMR:
	7.87 (d, 1H), 7.74 (d, 1H), 7.60-7.25 (m, 10H),
į	7.06 (d, 1H), 6.90-6.88 (m, 4H), 5.00 (s, 2H),
	4.80 (t, 2H), 4.68-4.55 (m, 2H), 4.38 (t, 2H),
	4.04-3.79 (m, 2H), 2.58 (s, 3H)
169	(2S)-3-(4-Benzyloxyphenyl)-2-{3-[2-(2,6-
	dimethylphenoxy)ethoxy]benzoylamino}propionic
	acid; <sup>1</sup> H-NMR: 7.43-7.30 (m, 9H), 7.24-6.91 (m,
	7H), 6.58 (d, 1H), 5.07-5.00 (m, 3H), 4.35-4.32
	(m, 2H), 4.17-4.14 (m, 2H), 3.30 (dd, 1H), 3.21
	(dd, 1H), 2.32 (s, 6H)
170	3-{(3-Benzyloxybenzyl)-{4-[2-(3-methylquinoxalin-2
	-yloxy)ethoxy]benzoyl}amino}propionic acid; MS:
	592
171	{(3-Benzyloxybenzyl)-{4-[2-(3-methylquinoxalin-2-
	yloxy)ethoxy]benzoyl}amino}acetic acid; MS: 578
172	{(3-Benzyloxybenzyl)-{3-[2-(3-methylquinoxalin-2-
	yloxy)ethoxy]benzoyl}amino}acetic acid; MS: 578
173	3-{(3-Benzyloxybenzyl)-{3-[2-(3-methylquinoxalin-2
	-yloxy)ethoxy]benzoyl}amino}propionic acid; MS:
	592
174	{(3-Benzyloxybenzyl)-[4-(3-benzyloxybenzyloxy)benz
į.	oyl]amino}acetic acid; <sup>1</sup> H-NMR: 7.45-7.30 (m, 14H),
	7.05-6.81 (m, 8H), 5.08 (s, 2H), 5.07 (s, 2H),
	5.05 (s, 2H), 4.67 (br s, 2H), 4.15 (br s, 2H)

175	3-{(3-Benzyloxybenzyl)-[4-(3-benzyloxybenzyloxy)be
	nzoyl]amino}propionic acid; <sup>1</sup> H-NMR: 7.46-7.25 (m,
	13H), 7.06-6.78 (m, 9H), 5.07 (s, 4H), 5.04 (s,
	2H), 4.62 (br s, 2H), 3.66 (m, 2H), 2.73 (m, 2H)
176	3-{(4-Benzyloxybenzyl)-[4-(3-benzyloxybenzyloxy)be
176	nzoyl]amino}propionic acid; <sup>1</sup> H-NMR: 7.46-7.27 (m,
	13H), 7.11-6.93 (m, 9H), 5.07 (s, 2H), 5.06 (s,
	2H), 5.04 (s, 2H), 4.59 (br s, 2H), 3.66 (m, 2H),
	2.70 (m, 2H)
177	{ (4-Benzyloxybenzyl) - [3-(3-benzyloxybenzyloxy)benz
	oyl]amino}acetic acid; <sup>1</sup> H-NMR: 7.44-7.26 (m, 13H),
	7.11-6.91 (m, 9H), 5.08-4.98 (m, 6H), 4.75-4.52
	(m, 2H), 4.16-3.86 (m, 2H)
178	{ (3-Benzyloxybenzyl) - [3-(3-benzyloxybenzyloxy)benz
	oyl]amino}acetic acid; <sup>1</sup> H-NMR: 7.44-7.26 (m, 13H),
	7.07-6.80 (m, 9H), 5.09-4.93 (m, 6H), 4.79-4.57
	(m, 2H), 4.17-3.86 (m, 2H)
179	3-{(3-Benzyloxybenzyl)-[3-(3-benzyloxybenzyloxy)be
	nzoyl]amino}propionic acid; <sup>1</sup> H-NMR: 7.45-7.23 (m,
	13H), 7.03-6.89 (m, 8H), 6.75 (m, 1H), 5.06-4.93
	(m, 6H), 4.73-4.50 (m, 2H), 3.69-3.47 (m, 2H),
	2.73-2.35 (m, 2H)
180	$(2S)$ -3- $(4$ -Benzyloxyphenyl) -2- $\{3$ - $[2$ - $(3$ -methylquinox
	alin-2-yloxy)ethoxy]benzoylamino}propionic acid;
	MS: 578
181	3-[(4-Benzyloxybenzoyl)-(3-benzyloxybenzyl)amino]p
	ropionic acid; MS: 496
182	3-{(4-Benzyloxybenzyl)-[3-(3-benzyloxybenzyloxy)be
	nzoyl]amino}propionic acid; <sup>1</sup> H-NMR: 7.41-7.26 (m,
	13H), 7.02-6.92 (m, 9H), 5.06-4.98 (m, 6H),
	4.69-4.46 (m, 2H), 3.68-3.48 (m, 2H), 2.71-2.43
	(m, 2H)
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183	(2C) 2 [4 /4 Per - ]
1203	(2S)-2-[4-(4-Benzyloxybenzyloxy)benzoylamino]-3-(4
	-benzyloxyphenyl)propionic acid; <sup>1</sup> H-NMR: 7.68 (d,
	2H), 7.44-7.30 (m, 12H), 7.10 (d, 2H), 7.00-6.90
	(m, 4H), 6.89 (d, 2H), 5.08 (s, 2H), 5.02 (s, 4H),
ļ	4.95 (t, 1H), 3.27 (dd, 1H), 3.17 (dd, 1H)
184	(2S)-3-(4-Benzyloxyphenyl)-2-[4-(biphenyl-2-ylmeth
	oxy) benzoylamino] propionic acid; <sup>1</sup> H-NMR: 7.64-7.55
	(m, 3H), 7.42-7.33 (m, 13H), 7.10 (d, 2H),
	6.89-6.84 (m, 4H), 5.02 (s, 2H), 4.97 (s, 2H),
	4.95 (t, 1H), 3.26 (dd, 1H), 3.17 (dd, 1H)
185	(2S) -2-[3-(4-Benzyloxybenzyloxy)benzoylamino]-3-(4
	-benzyloxyphenyl)propionic acid; <sup>1</sup> H-NMR: 7.46-7.18
	(m, 15H), 7.14-7.07 (m, 3H), 6.97 (d, 2H), 6.57
	(d, 2H), 5.05-4.97 (m, 5H), 3.30 (dd, 1H), 3.19
	(dd, 1H)
186	(2S) -3-(4-Benzyloxyphenyl) -2-[3-(3-phenylallyloxy)
	benzoylamino]propionic acid; H-NMR: 7.41-7.18 (m,
	13H), 7.10-7.04 (m, 3H), 6.85 (d, 2H), 6.71 (d,
	1H), 6.38 (dt, 1H), 4.98 (s, 2H), 4.95-4.87 (m,
	1H), 4.69 (dd, 1H), 3.25 (dd, 1H), 3.15 (dd, 1H)
187	(2S)-3-(4-Benzyloxyphenyl)-2-[3-(biphenyl-4-ylmeth
	oxy)benzoylamino]propionic acid; <sup>1</sup> H-NMR: 7.50-6.75
	(m, 22H), 4.98 (s, 2H), 4.86 (s, 2H), 4.78 (m,
	1H), 3.22-3.00 (m, 2H)
188	(2S)-3-(4-Benzyloxyphenyl)-2-[3-(3-phenoxybenzylox
	y) benzoylamino] propionic acid; <sup>1</sup> H-NMR: 7.40-7.20
	(m, 11H), 7.12-6.89 (m, 11H), 6.55 (d, 1H),
•	5.04-5.00 (m, 5H), 3.29 (dd, 1H), 3.20 (dd, 1H)

189	(2S) -3-(4-Benzyloxyphenyl) -2-[3-(3-phenylpropoxy)b
	enzoylamino]propionic acid; <sup>1</sup> H-NMR: 7.40-7.16 (m,
-	13H), 7.06 (d, 2H), 7.00 (dd, 1H), 6.86 (d, 2H),
	4.98 (s, 2H), 4.92 (t, 1H), 3.96 (t, 2H), 3.25
	(dd, 1H), 3.14 (dd, 1H), 2.78 (t, 2H), 2.08 (m,
100	2H)
190	(2S) -2-[3-(4-Butylbenzyloxy)benzoylamino]-3-cycloh
	exylpropionic acid; MS: 438
191	$(2S)$ -3- $(4$ -Bromophenyl) -2- $\{4$ - $[2$ - $(3$ -methylquinoxalin
}	-2-yloxy)ethoxy]benzoylamino}propionic acid; MS:
	551
192	$(2S)$ -3- $(4$ -Fluorophenyl) -2- $\{4$ - $[2$ - $(3$ -methylquinoxali
ľ	n-2-yloxy)ethoxy]benzoylamino}propionic acid; MS:
	490
193	(2S) -2-[4-(3-Benzyloxybenzyloxy)benzoylamino]-3-(4
	-bromophenyl)propionic acid; MS: 561
194	(2S) -2-[4-(3-Benzyloxybenzyloxy)benzoylamino]-3-(4
	-fluorophenyl)propionic acid; MS: 500
195	3-{[4-(2-Dibenzylaminoethoxy)benzoyl]-(3-phenoxybe
	nzyl)amino}propionic acid; MS: 615
196	3-{[4-(2-Dibenzylaminoethoxy)benzoyl](4-phenoxyben
	zyl)amino}propionic acid; MS: 615
197	3-{[3-(2-Dibenzylaminoethoxy)benzoyl]naphthalen-2-
	ylmethylamino}propionic acid; MS: 573
198	3-{(4-tert-Butylbenzyl)-[3-(2-dibenzylaminoethoxy)
	benzoyl]amino}propionic acid; MS: 579
199	3-{Biphenyl-4-ylmethyl-[3-(2-dibenzylaminoethoxy)b
	enzoyl]amino}propionic acid; MS: 599
200	3-{(4-Bromobenzyl)-[3-(2-dibenzylaminoethoxy)benzo
	yl]amino}propionic acid; MS: 601
201	3-{[3-(2-Dibenzylaminoethoxy)benzoyl]-(3-
	phenoxybenzyl)amino}propionic acid; MS: 615

202	(2S)-3-(4-Benzyloxyphenyl)-2-{4-[2-(pyridin-2-
203	yloxy)ethoxy]benzoylamino}propionic acid; MS: 513
203	(2S) -3-(4-Benzyloxyphenyl) -2-{4-[2-(quinolin-8-
204	yloxy)ethoxy]benzoylamino}propionic acid; MS: 563
204	(2S)-3-(4-Benzyloxyphenyl)-2-{4-[2-(4-imidazol-1-y
	1-phenoxy) ethoxy] benzoylamino} propionic acid; MS:
	578
205	(2S)-3-(4-Benzyloxyphenyl)-2-[4-(2-naphthalen-2-yl
	-ethoxy) benzoylamino] propionic acid; <sup>1</sup> H-NMR:
	7.80-7.76 (m, 3H), 7.69-7.62 (m, 3H), 7.46-7.25
•	(m, 8H), 7.06 (d, 2H), 6.89-6.83 (m, 4H), 4.97 (s,
	2H), 4.90 (t, 1H), 4.25 (t, 2H), 3.24-3.20 (m,
·	3H), 3.11 (dd, 1H)
206	$(2S)$ -3- $(4$ -Benzyloxyphenyl) -2- $\{4$ - $[2$ - $(2$ -methylbenzot
	hiazol-5-yloxy)ethoxy]benzoylamino}propionic acid;
	MS: 583
207	(2S) -3-(4-Benzyloxyphenyl) -2-{4-[2-(5,6,7,8-tetrah]
•	ydronaphthalen-2-
	yloxy)ethoxy]benzoylamino}propionic acid; MS: 566
208	(2S) -2-[4-(4-Butylbenzyloxy)benzoylamino]-3-phenyl
	propionic acid; MS: 432
209	(2S) -3-(4-Benzyloxyphenyl) -2-[4-(4-butylbenzyloxy)
	benzoylamino]propionic acid; MS: 538
210	(2S) -2-[4-(4-Butylbenzyloxy)benzoylamino]-3-cycloh
	exylpropionic acid; MS: 438
211	(2S) -3-Cyclohexyl-2-{4-[2-(3-methylquinoxalin-2-
	yloxy)ethoxy]benzoylamino}propionic acid; MS: 478
212	(2S) -3-Cyclohexyl-2-{3-[2-(3-methylquinoxalin-2-
	yloxy)ethoxy]benzoylamino}propionic acid; MS: 478
213	(2S) -2-[4-(3-Benzyloxybenzyloxy) benzoylamino]-3-cy
•	clohexylpropionic acid; MS: 488

214	(25) -2 - 52 (2 Parent
211	(2s)-2-[3-(3-Benzyloxybenzyloxy)benzoylamino]-3-cy
015	clohexylpropionic acid; MS: 488
215	(2S)-3-(4-Benzyloxyphenyl)-2-[3-(4-butylbenzyloxy)
	benzoylamino]propionic acid; MS: 538
216	{(3-Benzyloxybenzyl)-[4-(4-butylbenzyloxy)benzoyl]
 	amino}acetic acid; MS: 538
217	{(4-Benzyloxybenzyl)-[4-(4-butylbenzyloxy)benzoyl]
	amino}acetic acid; <sup>1</sup> H-NMR: 7.50-7.10 (m, 13H),
	6.97 (d, 4H), 5.06 (s, 2H), 5.03 (s, 2H), 4.63
	(br s, 2H), 4.15 (br s, 2H), 2.61(t, 2H), 1.59 (q,
	2H), 1.36 (m, 2H), 0.92 (t, 3H)
218	3-{(3-Benzyloxybenzyl)-[4-(4-butylbenzyloxy)benzoy
	l]amino}propionic acid; MS: 552
219	3-{(4-Benzyloxybenzyl)-[4-(4-butylbenzyloxy)benzoy
	l]amino}propionic acid; MS: 552
220	[3-(4-Benzyloxybenzyloxy)benzoylamino]phenylacetic
	acid; MS: 468
221	(2S) -2-[3-(4-Benzyloxybenzyloxy)benzoylamino]-3-ph
	enylpropionic acid; MS: 482
222	(2S) -2-[3-(4-Benzyloxybenzyloxy)benzoylamino]-3-cy
•	clohexylpropionic acid; MS: 488
223	{(3-Benzyloxybenzyl)-[3-(4-butylbenzyloxy)benzoyl]
	amino}acetic acid; MS: 538
224	3-{(3-Benzyloxybenzyl)-[3-(4-butylbenzyloxy)benzoy
	l]amino}propionic acid; MS: 552
225	(2S)-2-{4-[2-(3-Methylquinoxalin-2-yloxy)ethoxy]be
	nzoylamino}-3-phenylpropionic acid; MS: 472
226	[3-(3-Benzyloxybenzyloxy)benzoylamino]phenylacetic
	acid; MS: 468
227	(2S)-2-[3-(3-Benzyloxybenzyloxy)benzoylamino]-3-ph
	enylpropionic acid; MS: 482

228	{(3-Benzyloxybenzyl)-[3-(4-benzyloxybenzyloxy)benz
	oyl]amino}acetic acid; MS: 588
229	3-{(3-Benzyloxybenzyl)-[3-(4-benzyloxybenzyloxy)be
	nzoyl]amino}propionic acid; MS: 602
230	(2S)-3-(4-Benzyloxyphenyl)-2-{4-[2-(quinolin-2-
	yloxy) ethoxy] benzoylamino propionic acid; MS: 563
231	(2S)-3-(4-Benzyloxyphenyl)-2-{4-[2-(quinolin-7-ylo
	xy) ethoxy]benzoylamino}propionic acid; MS: 563
232	[4-(4-Butylbenzyloxy)benzoylamino]phenylacetic
2.52	acid; MS: 418
233	(2S)-3-(4-Benzyloxyphenyl)-2-[4-(4-butoxybenzyloxy
233	1
024	)benzoylamino]propionic acid; MS: 554
234	{ [4-(3-Benzyloxybenzyloxy) benzoyl] - (4-benzyloxyphe
	nyl)amino}acetic acid; MS: 574
235	{[4-(3-Benzyloxybenzyloxy)benzoyl]-(3-benzyloxyphe
	nyl)amino}acetic acid; MS: 574
236	(2S)-3-(4-Benzyloxyphenyl)-2-[4-(2-pyridin-2-yl-et
	hoxy)benzoylamino]propionic acid; MS: 497
237	(2S)-2-[4-(4-Butoxybenzyloxy)benzoylamino]-3-cyclo
	hexylpropionic acid; MS: 454
238	(2S)-3-(4-Benzyloxyphenyl)-2-[4-(2-bromobenzyloxy)
	benzoylamino]propionic acid; MS: 561
239	(2S)-3-(4-Benzyloxyphenyl)-2-[4-(3-bromobenzyloxy)
	benzoylamino]propionic acid; MS: 561
240	(2S)-3-(4-Benzyloxyphenyl)-2-[4-(2-chlorobenzyloxy
	)benzoylamino]propionic acid; MS: 516
241	(2S)-3-(4-Benzyloxyphenyl)-2-[4-(3-chlorobenzyloxy
	)benzoylamino]propionic acid; MS: 516
242	(2S)-3-(4-Benzyloxyphenyl)-2-[4-(2-fluorobenzyloxy
	)benzoylamino]propionic acid; MS: 500
243	(2S)-3-(4-Benzyloxyphenyl)-2-[4-(2-methylbenzyloxy
	)benzoylamino]propionic acid; MS: 496
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244 (2S) -3-(4-Benzyloxyphenyl) -2-[4-(			
methylbenzyloxy)benzoylamino]prop	ionic	acid;	MS:
496			
245 (2S)-3-(4-Benzyloxyphenyl)-2-[4-(	3-	·	
trifluoromethylbenzyloxy)benzoyla	mino]pr	copioni	.c
acid; MS: 550			
246 (2S) -3-(4-Benzyloxyphenyl) -2-[4-(	2-		
trifluoromethylbenzyloxy)benzoyla	mino]pi	copioni	.c
acid; MS: 550			
247 (2S) -2-[4-(3-Bromobenzyloxy)benzo	ylamino	o] -3-cy	rcloh
exylpropionic acid; MS: 461			
248 (2S) -3-(4-Benzyloxyphenyl) -2-[4-(	2-meth	oxybenz	ylox
y) benzoylamino] propionic acid; MS			_
249 (2S)-3-(4-Benzyloxyphenyl)-2-{4-[	(benzy	lpheny	carb
amoyl)methoxy]-benzoylamino}propi	lonic	;	acid;
<sup>1</sup> H-NMR: 7.60 (d, 2H), 7.38-6.99 (			
2H), 6.75 (d, 2H), 6.63 (d, 1H	H), 5.1	LO-4.90	(m,
5H), 4.41 (s, 2H), 3.32-3.10 (m,			
250 (2S) -3-(4-Benzyloxyphenyl) -2-{4-			
l) methoxy] -benzoylamino}propionio			
7.64 (d, 2H), 7.41-6.84 (m, 21H			
5.03-4.91 (m, 3H), 4.81 (s, 2H	1), 4.6	1 (s,	2H),
4.50 (s, 2H), 3.33-3.12 (m, 2H)			<del></del>
251 (2S) -3-(4-Benzyloxyphenyl) -2-{4-	[2~(10,	11-dih	ydrod
ibenzo[b,f]azepin-5-yl)-2-		. 1	
oxoethoxy]benzoylamino}propionic			
7.60 (d, 2H), 7.38-7.06 (m, 15)			
6.79 (d, 2H), 6.60 (d, 1H), 5			
4.77 (d, 1H), 4.46 (d, 1H), 3	.37-3.2	20 (m,	4H),
2.89-2.74 (m, 2H)			

252	(2S) -2-{4-[2-(Benzoylbenzylamino)ethoxy]benzoylami
	no}-3-(4-benzyloxyphenyl)propionic acid; <sup>1</sup> H-NMR:
	7.65 (d, 2H), 7.38-6.61 (m, 22H), 4.98 (m, 3H),
	4.69-3.63 (m, 6H), 3.34-3.13 (m, 2H)
253	$(2S)$ -3- $(4$ -Benzyloxyphenyl)-2- $(4$ - $\{2$ - $\{benzyl(pyridin)\}$
	e-3-carbonyl)amino]ethoxy}benzoylamino)propionic
ļ	acid; <sup>1</sup> H-NMR: 8.70-6.74 (m, 23H), 5.01-4.89 (m,
	3H), 4.88-3.61 (m, 6H), 3.35-3.14 (m, 2H)
254	[{4-[2-(Benzoylbenzylamino)ethoxy]benzoyl}-(4-
	benzyloxybenzyl)amino]acetic acid; 1H-NMR:
	7.79-6.74 (m, 23H), 5.06 (s, 2H), 4.89-3.61 (m,
	10н)
255	[(4-Benzyloxybenzyl)-(4-{2-[benzyl(pyridine-3-
	<pre>carbonyl)amino]ethoxy}benzoyl)amino]acetic acid;</pre>
	<sup>1</sup> H-NMR:: 8.64 (d, 1H), 7.79-6.80 (m, 21H), 5.06
	(s, 2H), 4.87-3.65 (m, 10H)
.256	{Thiophen-3-ylmethyl-{3-[2-(thiophen-2-ylsulfanyl)
	ethoxy]benzoyl}amino}acetic acid; MS: 434
257	{Thiophen-2-yl-{3-[2-(thiophen-2-ylsulfanyl)ethoxy
	benzoylamino   acetic acid; MS: 420.
258	{3-[(Benzylphenylcarbamoyl)methoxy]benzoylamino}th
	iophen-3-yl-acetic acid; MS: 501
259	3-(4-Benzyloxyphenyl)-2-{3-[(benzylphenethylcarbam
	oyl)methoxy]-benzoylamino}propionic acid; <sup>1</sup> H-NMR:
	7.41-7.00 (m, 21H), 6.90-6.75 (m, 2H), 4.85-4.75
	(m, 3H), 4.67-4.55 (m, 2H), 4.45-4.25 (m, 2H),
	3.60-3.35 (m, 2H); 3.35-3.05 (m, 2H), 2.60-2.05
1	(m, 2H); MS: 643

260	3-(4-Benzyloxyphenyl)-2-{4-[(phenylpyridin-2-yl-ca
	rbamoyl)methoxy]-benzoylamino}propionic acid;
·	H-NMR: 9.92 (d, 1H), 7.62-7.40 (m, 6H), 7.35 (d,
	2H), 7.30-7.10 (m, 7H), 7.12 (d, 1H), 6.97 (d,
	2H), 6.90 (2H), 6.75 (d, 2H), 5.27 (s, 2H), 4.89
	(s 2H), 4.76 (t, 1H), 3.11 (dd, 1H), 3.01 (dd, 1H)
261	3-(4-Benzyloxyphenyl)-2-{4-[(cyclohexylphenylcarba
	moyl)methoxy]benzoylamino}propionic acid; MS: 607
262	3-(4-Benzyloxyphenyl)-2-{4-[(tert-butylcyclohexylc
	arbamoyl)methoxyl-benzoylamino}propionic acid; MS:
	587
263	3-(4-Benzyloxyphenyl)-2-(4-{[(2-fluorophenyl)thiop
	hen-2-
	ylmethylcarbamoyl]methoxy}benzoylamino)propionic
	acid; MS: 639
264	(2S) -3-(4-Benzyloxyphenyl) -2-{3-[2-(3-methyl-2-oxo
	-2H-quinoxalin-1-yl)ethoxy]benzoylamino}propionic
	acid; MS: 578
265	(2S) -3-((4-Benzyloxybenzyl)-{3-[2-(3-methyl-2-oxo-
	2H-quinoxalin-1-yl)ethoxy]benzoyl}amino)propionic;
	MS: 592

## EXAMPLES (Ic) and (Id)

The compounds of formula (Ic) and (Id) shown in Table 18 were synthesized either according to any of methods A to C, starting from compounds of formula (Ib) and the aminic derivatives  $HNR_2R_3$  or  $HNR_2OR_1$ :

TABLE 18

N-[(1S)-2-(4-Benzyloxyphenyl)-1-dimethylcarbamoyle					
thyll-4- phenetyloxybenzamide; <sup>1</sup> H-NMR: 7.75 (d,					
2H), 7.44-6.88 (m, 16H), 5.30 (m, 1H), 5.05 (s,					
2H), 4.22 (t, 2H), 3.25-2.90 (m, 4H), 2.88 (s,					
3H), 2.67 (s, 3H)					
N-[(1S)-2-(4-Benzyloxyphenyl)-1-dimethylcarbamoyle					
thyl]-4-					
[2-(3-methylquinoxalin-2-yloxy)ethoxy]benzamide;					
7.96-7.29 (m, 9H), 7.14-7.09 (m, 4H), 7.00 (d,					
2H), 6.89 (d, 2H), <sup>1</sup> H-NMR: 5.30 (m, 1H), 5.05 (s,					
2H), 4.88 (t, 2H), 4.47 (t, 2H), 3.30-2.95 (m,					
2H), 2.88 (s, 3H), 2.68 (s, 3H), 2.65 (s, 3H)					
N-[(1S)-2-(4-Benzyloxyphenyl)-1-hydroxycarbamoylet					
hyl]-4-[2-(3-					
methylquinoxalin-2-yloxy)ethoxy]benzamide; MS: 593					
N-[(1S)-2-(4-Benzyloxyphenyl)-1-methoxycarbamoylet					
hyl]-4-[2-(3-					
methylquinoxalin-2-yloxy)ethoxy]benzamide; MS: 607					
N-[(1S)-2-(4-Benzyloxyphenyl)-1-(methoxymethylcarb					
amoyl)ethyl]-4-[2-(3-methylquinoxalin-2-yloxy)etho					
xy]benzamide; MS: 621					

# Assay of binding to the PPARy2

The cDNA encoding for the open reading frame of the hPPAR $\gamma$ 2 is amplified by PCR (polymerase chain reaction) and inserted in the plasmid pGEX-4T-2. This construction (pGEX-hPPAR $\gamma$ ) is introduced into E. coli where it is overexpressed and semipurified as a fusion protein with glutathione

S-transferase (GST) (Elbrecht et al., J. Biol. Chem. 1999, 274, 7913-7922).

The binding of the compounds to the GST-hPPARy2 s determined by modifications in the method described Lehmann et al. (J. Biol. Chem. 1995, 270, 12953-12957). The receptors (2.5  $\mu$ g) were incubated in 96-well plates in the presence or in the absence of the products with [3H] BRL-49853 (100 nM) for 3 h at 4°C, in a final volume of 200  $\mu L$  of buffer Tris-HCl 10 mM pH:8.0, containing KCl 50 mM and DTT 10 mM. Non-specific binding was determined in the presence of BRL-49853 100  $\mu$ M. The reaction mixture was transferred to a Multiscreen Durapore (Millipore) microplate glutathione-Sepharose 4B in every well. The reaction mixture was left to incubate with the resin during 10 min, and then centrifuged at 735 g during 2 min. To dissociate the receptor bound to the resin, reduced glutathione 10 mM is added and incubated during 10 min. The receptor was eluted by centrifugation. Then, 800  $\mu L$  of scintillation liquid were added to the elution and the contained radioactivity was quantified by liquid scintillation spectroscopy (Microbeta Wallac, Perkin Elmer).

## LBD-hPPARs transactivation assay

COS-7 cells were cultivated in 24-well plates and transfected with the pFACMV plasmids that encode the chimeric proteins containing the GAL4 DNA binding domain fused to the PPARY LBD. The reporter plasmid for the foregoing constructions was pFR-Luc, which contains five repetitions of the GAL4-response element in front of a promoter that controls the transcription of the luciferase gene. Lipofectamine was used as a transfection agent.

The plasmids of the chimeric receptors and the reporter gene were inserted in the cells by transitory transfection in COS-7 cells in culture. When the products were added to the culture for 48 h, the luciferase activity showed the effect of the PPAR activity modulation on the transcription of the reporter construction (Wright et al., J. Biol. Chem. 2000, 275, 1873).

### Cloning of human PPARa, PPARS and PPARy2

The human PPARs cDNAs were amplified through RT-PCR. For hPPARa, RNA was obtained from HepG2 cells treated with linoleic acid; for h PPARa, RNA was obtained from untreated HepG2 cells; for hPPARy2, RNA was obtained from human white adipose tissue. Each amplified fragment was cloned into pBluescript (Stratagene®) and sequenced. One clone for each construction was selected and used as template for further subcloning and PCR amplifications.

#### GST-fused protein construction

To generate these chimeric proteins, the complete cDNA of the human PPARs were cloned into pGEX4T2 (Amersham Biosciences). The fragment was obtained from the pBluescript-cDNAs clones digested with endonucleases. assess the plasmid identity and to ensure the in-phase cloning of the proteins, pGEXs constructions were sequenced. GST-hPPARy2, GST-hPPARa or GST-h PPAR& fusion proteins were generated in Escherichia coli (BL21 strain DE3). Cells were cultured in LB medium to a density of A600= 1.6 odu, and induced for overexpression by addition isopropyl-1-thio-β-D-galactopyranoside (IPTG) - induced cultures to a final concentration of 0.5 mM. The IPTG-induced cultures were grown at room temperature o/n, before cells were harvested by centrifugation at 5000 g for 15 min. After sonication, the GST-fusion proteins were purified from the cell pellet using glutathione-Sepharose beads, following the procedure recommended by the manufacturer (Amersham Pharmacia Biotech). Excess of gluthatione was removed o/n by dyalisis at 4°C. Receptor purity was visualized by SDS-PAGE and protein content was determined by Bradford method. Receptor aliquots were stored at -80°C until use.

#### GST-hPPARa and GST-hPPARo binding

Using 96-well culture plates, PPAR $\alpha$  or PPAR $\delta$  (5  $\mu$ g) were diluted to a total volume of 100  $\mu$ L with buffer consisting of 50 mM HEPES (pH:7.0), 50 mM KCl, 5 mM EDTA and 10 mM DTT, in the presence of [3H]-GW2433 (100 and 50 nM for PPARa and PPARO, respectively). Nonspecific binding was estimated in parallel incubations containing 50  $\mu\text{M}$  of GW-2433. Plates were incubated for 2 h at room temperature. Free radioligand was separated from receptor-bound ligand by size exclusion chromatography using Sephadex G-25 in 96-wells spin plates, using the Multiscreen Column Loader (Millipore). Eluted quantitated by liquid scintillation radioactivity was counting in a Microbeta counter (Perkin Elmer).

In Table 19, affinity and functional activity data of some of the compounds of the present invention are shown.

TABLE 19

Ex.	Affinity	Functional activity Affinity Affinity		
EX.	PPARy (1)	PPARy	PPARγ <sup>(1)</sup>	PPARγ <sup>(1)</sup>
20	+++	Partial agonist	+	+
21	+++	Partial agonist	+	+
2.7	+++	Antagonist	+ .	+
95	+++	Agonist	+	+
98	+++	Antagonist	+	1
129	. +++	Partial agonist	÷	+
131	++	Partial agonist	+	+
136	++	Antagonist	+	++
141	++	Antagonist	+	++
142	++	Antagonist	+	++
145	++	Antagonist	+	+
146	++	Antagonist	+	+
153	++	Partial agonist	+	+
160	+	Partial agonist	+ .	+
161	++	Antagonist	+	+
162	+++	Antagonist	+	. +
163	+++	Antagonist	+	+
164	++	Antagonist	+	+
170	++	Antagonist	+	+
176	+++	Antagonist	++	+
180	+++	Partial agonist	++	+
183	+++	Partial agonist	+	+
184	+++	Antagonist	+	
L85	+++	Partial agonist	+	+
.87	+++	Agonist	+	+
88	+++	Partial agonist	+	+

192	+	Partial agonist	+	+
210	+++	Agonist	+	+
218	+++	Antagonist	+	+
237	+++	Partial agonist	+	+
238	+++	Antagonist	+	+
243	+++	Antagonist	+	+
267	++	Partial agonist	+	+

(i) +++ : Ki < 1000 nM, ++: 1000 nM< Ki <3000 nM, + : Ki

>3000 nM